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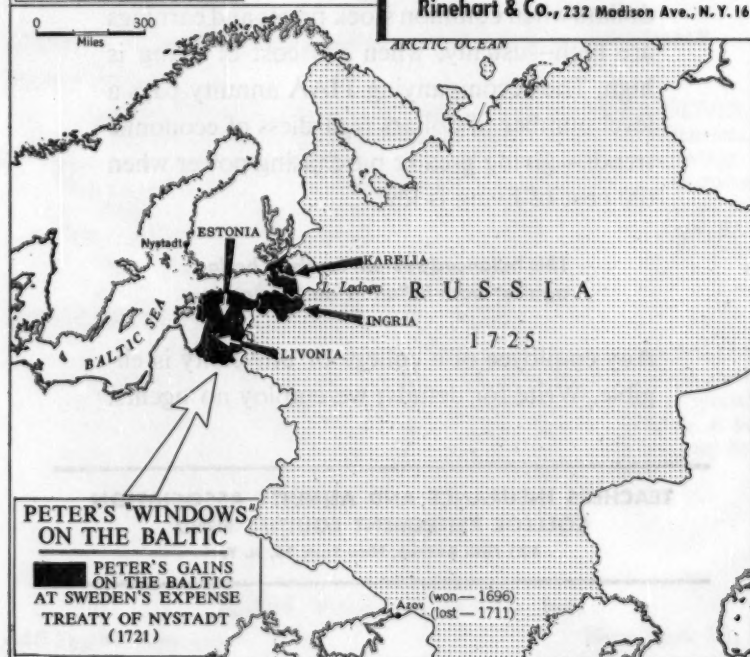
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JUNIOR COLLEGE JOURNAL

VOLUME XXVI

OCTOBER, 1955

NUMBER 2

The People's College

JAMES M. EWING

SINCE ITS inception the public junior college has served as the "People's College." While large numbers of junior college students are financially able to attend any college or university of their choice, a vast majority would be without a college education except for this 20th century institution.

The advantages of junior college commonly accepted for many years include home influences, personal attention, small classes, activity participation, especially trained teachers to serve as "shock-absorbers" in the transition from high school to university, the general acceptance of responsibility for emphasis on moral and spiritual values, and the freedom from established traditional accreditation procedures. The fact that the junior college brings a college education within reach of the masses and eliminates economic barriers is responsible for its phenomenal growth and acceptance.

The field of service for the junior college may vary from a highly technical program in engineering to short courses in salesmanship. A good junior

James M. Ewing is President of Copiah-Lincoln Junior College in Wesson, Mississippi, and Chairman of the Committee on Administration of the AAJC.

college will do a superior job for the people it serves whether the function

be terminal, preparatory, or general education. The geography of service may be a religious denomination, a county, a city, or it may be national in scope. Each type institution is important in its field.



The private or independent junior college has pioneered in practically every field of service and continues to increase in strength and stature because of many advantages that cannot well be provided in the public junior college. The American Association of Junior Colleges had been, and will continue to be, strong because its leaders have recognized the outstanding service rendered by the multiplicity of institutional types which compose its membership.

The purpose of this brief editorial is to point up the *one* outstanding

requisite of the public junior college—to provide post-high school educational opportunities for thousands of youth and adults who because of economic reasons could not attend any other college. Officials and staff must constantly re-evaluate the entire curriculum and program to make certain that the public junior college is available to meet the needs of all the people regardless of economic status.

Certainly a basic responsibility of any institution labeled "College" is the preparatory function—probably it is the number one function; but the need of the people is met in large measure by terminal programs including trade-training, vocational-technical, semi-professional, short courses, adult education, and the other many and varied fields where only the public junior college can render the needed service. No recognized study has ever shown that junior colleges do an inferior job in preparing students for baccalaureate degrees, and yet the preparatory function remains a relatively minor part of the total junior college program. Only American education envisions an opportunity for every boy and girl to have the privilege of a college educa-

tion; and only through the public junior college has this opportunity become a reality to the masses of the young people of this nation.

The American institution of the 20th century is the public junior college—the "People's College." The taxpayer has willingly supported this public institution; he recognizes it as a sound investment. It has raised the economic, social, and cultural level of every community it has touched. Military and political leaders have warned time after time that a return to religion is all that will save us from disappearing in a cloud of atomic dust. It would profit us nothing to gain the whole world and lose our very civilization. The recent Conference on Religion in the Junior Colleges has pointed up the need, many of the successful practices, and the legal possibility of making religion a vital part of the program in even the public junior college. It is the responsibility of junior college officials and administrators to provide teachers of vision and character with strong religious convictions to meet this challenge as an important requisite of the "People's College."

USAFI

The Serviceman's Junior College

HARRY E. TYLER

We can look upon the junior college movement which is now spreading throughout the United States as the most wholesome and significant occurrence in American education in the present century.

—RAY LYMAN WILBUR

THE GROWTH from an unpopular idea which was first promulgated in 1852 by President Henry P. Tappan of the University of Michigan to a movement which one hundred years later numbers 586 junior colleges with over a half million students confirms the prophetic statement of the late President Wilbur of Stanford University. When one considers the relatively slow growth of other segments of higher education in the United States, the development of the junior colleges takes on even greater significance.

When Dr. Wilbur made his enthusiastic pronouncement in 1931, there were many educators as well as other persons who doubted that the junior college was here to stay. It was a rather common belief at that time that the junior college represented but another fad of the many that were supposed to characterize American education.

HARRY E. TYLER, Administrative Assistant to the Director, United States Armed Forces, is a former president of the Northern California Junior College Association, the Central California Junior College Association, and the California State Junior College Association. He is the author of several articles, "I Like Junior College" and "Student Personnel Programs in California" and is co-author of Learning to Live, and others.

Today the junior college is accepted in most professional circles, and as the "Community Institute," it is meeting a real need in American society. High school education, which was a luxury one hundred years ago, is now considered to be insufficient preparation for youth for today's world.

"There is now, as there was not 25 years ago, almost entire agreement that the whole youth population should have the opportunity for post-high school education. Business, industry, and the other professions demand a more mature and a more specially prepared person than the high school graduate. The home requires more preparation for parenthood and domestic duties than can be expected of

the high school graduate. Adult labor urges our young people to keep out of the labor market for another year or two. The country must have more fully informed citizens if democratic government is to be safe and effective." Thus spoke the eminent educator, the late Dr. George F. Zook, in the *Junior College Journal* of May, 1946. It is to meet this need for post-high school education that the junior college has been developed. The junior college is today "the people's college."

But another phenomenon that has vastly affected the lives of young people of junior college age has recently come into the American scene. Today military service has become a fixed part of the life-pattern of all physically-fit young men, and post-high school education must take cognizance of this fact. The world outlook and the position of the United States in the world of nations is such that it is impossible to predict when military service on the part of all American youth will no longer be required. Military service for all physically sound male young people between the ages of 18 and 26 is no longer a theory. It is a fact that must be appreciated by American educators. Today many thousands of our young men and women are in the armed forces. The majority are high school graduates, although many others have not yet received their high school diplomas. Some are college graduates, while thousands of others have not completed college. If post-high school

education is a privilege to be enjoyed by many of the youth of the land, can those who are in the military services continue their education?

The United States Armed Forces Institute, Madison, Wisconsin, was known and recognized by most junior college leaders during and immediately after World War II, but few of them realize its significance in the educational picture today. USAFI does in fact make it possible for men and women in the armed forces to enjoy those opportunities for continuing their education that they might have were they still in their home communities. USAFI now offers to many thousands of military personnel the advantages of a junior college.

It was on December 24, 1941, that the War Department authorized the establishment of a correspondence school to be known as the *Army Institute* to provide educational opportunities for enlisted personnel of the Army. The Institute began its operations at Madison, Wisconsin, on April 1, 1942, in a building donated by the University of Wisconsin. Its initial offerings consisted of 64 correspondence courses in technical education and a few academic courses at the secondary and junior college levels. In addition, through the Institute, several hundred university and high school courses were offered by the Extension Divisions of cooperating colleges and universities under contract with the gov-

ernment. Thus began the serviceman's "Junior College."

Shortly after the establishment of the Institute by the War Department, the Secretary of the Navy expressed interest in its work; and on September 16, 1942, the Institute's offerings were made available to the personnel of the Navy, Marine Corps, and Coast Guard. It was redesignated as the *United States Armed Forces Institute* in February, 1943, and thereafter has been popularly referred to as "USAFI." In July, 1943, commissioned personnel were permitted to participate in the USAFI program on the same basis as enlisted personnel. Thus, USAFI became an educational facility serving all members of the armed forces on active duty. In 1946, by direction of the Secretary of War, Robert P. Patterson, the United States Armed Forces Institute was established as a peace-time educational activity of the armed forces.

In 1949 USAFI became an activity operating under the Armed Forces Information and Education Division of the Office of the Secretary of Defense. In January, 1950, by direction of the Chairman, Personnel Policy Board, Office of Secretary of Defense, direction and control of the United States Armed Forces Institute was vested in a civilian director in the interest of establishing stability and continuity for the operation of USAFI. USAFI now is a civilian educational activity of the Office of Armed Forces Information

and Education, Department of Defense. It has taken its place as one of the largest educational institutions in the country.

In the spring of 1954, USAFI celebrated its Twelfth Anniversary and the 3,000,000 enrollment. The "school with the world-wide campus" for men and women in the military services has come of age!

The age level of the youth whom it serves and the purposes and the philosophy of the institution, as well as its program of course offerings, make the United States Armed Forces Institute a unique institution. From the very inception of USAFI, civilian educators have had a prominent place in its direction. For the members of the armed forces, USAFI is a civilian educational activity with educational services and materials that are similar to those of civilian junior colleges or "community institutes." USAFI enrollment records show that the age span of its students ranges from 17 to 60, with the great majority to be found in their early 20's. Some of USAFI's students have not completed the elementary school, and through group study classes in "basic" and "intermediate" education, they may bring themselves up to the high school level. However, the great majority of the students are enrolled for courses in the upper years of high school or the first years of college. Like adult education programs in nearly every community throughout the country, the span of

USAFI courses runs the entire gamut from the elementary level through the 14th year. The typical USAFI student is over 20 years of age and lacks but a few credits of being a high school graduate.

By its mission USAFI is concerned with the voluntary-off-duty educational program and not with the on-duty training program of the military services. Military personnel may avail themselves of USAFI course offerings by attending group study classes, by enrolling for correspondence courses or by signing up for self-teaching courses. Classes using USAFI materials are held in many camps, posts, or stations throughout the world, but more students take courses by correspondence than by any other method of study. No matter on what educational level or in what educational area USAFI offerings are available, they are all geared to the young adult. Frequently, young servicemen who have missed the opportunity of an elementary education have learned to read, write and do simple arithmetic by using USAFI materials. Many students have learned the essentials of American history and citizenship through USAFI courses. In spite of the wide variety of course offerings available, academic courses still draw the highest enrollments. In addition to the academic offerings, military personnel have available to them through the United States Armed Forces Institute a large number of technical-vocational courses. Among

these, auto-mechanics, television, radio, and other electronics courses are the most popular.

Traditionally, the public junior college and the community institute have indicated that their purposes are to provide educational opportunities in the area of (1) terminal education, (2) general education, (3) lower division training, (4) removal of matriculation deficiencies, (5) orientation and guidance, and (6) adult education. The United States Armed Forces Institute encompasses all of these categories. Thus, it functions for the men and women in the armed forces the same as does the "peoples' college" in civilian life.

In addition to its course offerings, the United States Armed Forces Institute has another vital function for the youth whom it is serving. Its testing program is one of USAFI's most vital and important activities. Early in World War II, civilian educators recognized the need for a sound basis for granting credit to veterans who had had formal or informal educational experiences while in the armed forces. The need for an adequate testing program was recognized in September, 1941, before the establishment of the Army Institute. On April 29, 1942, the Sub-Committee on Education and Recreation of the Joint Army and Navy Committee voted to authorize an operating group at the University of Chicago, directed by Dr. Ralph W. Tyler, University Examiner, to con-

struct needed testing materials and to develop appropriate procedures. Construction of the Army Institute Tests of General Educational Development was begun in October, 1942, and they were standardized by using seniors in the graduating classes of 1943. These were the high school level "GED" Tests. A little later, tests of General Educational Development were produced on the college level. At the same time, work began on USAFI's Subject Examinations, which are tests developed to measure competency in the principal high school and college subjects. Then came End-of-Course Tests for most of the courses offered by the United States Armed Forces Institute. In addition, other USAFI tests that are used strictly for military purposes were created. These tests, GED, Subject Examinations, and End-of-Course, together with certain tests used for military purposes, constitute the program of testing offered through USAFI.

Another function which USAFI has assumed is that of being the official repository of educational records of the men and women in the armed forces. No matter where men and women may pursue voluntary educational activities while serving in the armed forces, only the United States Armed Forces Institute at Madison, Wisconsin, can provide an official record which is made available to civilian institutions. USAFI is the "registrar's

office" for educational records of military personnel.

The maintenance of a military force and the support of the men and women while in the armed services are recognized as responsibilities of the federal government. To insure that the educational opportunities made available for men and women to continue their education while serving in the military services are only accredited by civilian institutions, no credit is ever granted by USAFI for any educational work carried on during military service. Recommendations for credit for USAFI courses are made by the Commission on Accreditation for Service Experiences of the American Council on Education, a civilian agency, and the granting of credit for educational service experiences rests with the civilian schools.

USAFI operates under a charter as an activity of the Department of Defense, and its educational offerings are recommended and approved by the Committee on the Armed Forces Education Program. This Committee is composed of both military and civilian personnel. Of the 21 voting members on the Committee, seven are military and 14 are civilian. Among the civilian members are the President of the American Council on Education; the Executive Secretary, National Education Association; the Director, Commission on Accreditation of Service Experiences, American Council on Education; a representative of the

United States Commissioner of Education; and 10 other members representing civilian education on all levels. The majority of the members of the professional staff of the United States Armed Forces Institute, including the Director, is made up of professional educators.

Those who believe in the great mission of the junior colleges in the United States as meeting the need for the post-high school education of youth, cannot help but be enthusiastic about the opportunities presented through USAFI for young people to continue their education while serving their country. In its 12 short years of history, USAFI has given new hope to many thousands of persons whose education otherwise would have ended when they were inducted into the armed forces. The primary objective of all the military services is to train a highly efficient fighting force for the defense of the United States. At the same time, by providing educational opportunities for the continuation of a civilian-type education, men and women are encouraged to continue their education. Many who would otherwise have been lost to post-high school education have resumed their education when they returned to civilian life.

Among enrollees of recent months two young men stand high in the number of courses that they have completed. One of them has completed 52 courses, and another has passed the End-of-Course Tests in 98. These are

exceptional cases, but the completion of five, eight or ten courses is quite a common occurrence. Statistics will never indicate the number of persons who were inspired to finish high school or resume their education when they became civilians as a result of USAFI's program, but nearly every day letters are received from appreciative "customers."

Here are some sample paragraphs taken from letters recently received: "I wish to thank you for your cooperation and excellent assistance throughout these courses. You have helped me in every way possible and I have gained much knowledge through these courses and through the benefit of your counsel. My appreciation cannot be expressed in words." Here is another: "Congratulations to the entire staff of USAFI on their twelfth birthday and 3,000,000 course enrollment. I was one of your best customers. Most of the courses I took from USAFI were accredited by the American University and counted toward the degree they granted me. I was graduated from the American University, Washington, D. C., with a B.S. in Business Administration. Many of the courses taken from USAFI were credited toward the degree, making it possible for me to graduate in two years of classroom attendance." Or this: "I want to thank you for the apparent interest you have taken in my work in the course—it's been a source of amazement to me how you could differentiate my work

(and my name) from the many papers which must pass through your hands every week—"Here is another: "Because of your courses I graduated an honor student and highest in my section and one of the highest in the class. Also I made Corporal because of the grades." Finally this touching tribute: "I am filled with gratitude because I come from a family that has found it hard to exist, therefore, have not had too much time to devote to a more formal type of education. I only wish that a lot more enlisted men would take advantage of the wonderful opportunity that is theirs for the asking and the courses that are available to them through your medium."

Many educators have seen the expanding curriculum of the junior college from that of a program parallel to the first two years of college or university to a complete program of course

offerings in academic, vocational, technical, and general education. Some have witnessed thousands of young men and women challenged to continue their education or trained to take up active citizenship as self-respecting and self-supporting citizens on graduation from junior college. Junior college educators have believed sincerely in the purposes, objectives, and program of the junior college because of the opportunities it has provided to post-high young people. For the young men and women in the armed forces USAFI offers similar opportunities to continue their education. USAFI and civilian institutions are working together to serve American youth. The civilian community institute and the "community institute" for military personnel can cooperate in training young people to live in today's world.

The Truant Pen

B. W. TEIGEN

THE ONE real purpose of a course in Communication is to improve communication. But as we search together for more effective ways to bring about this desired result in our junior college courses, we may do well to remind ourselves of the two major guiding principles which The Commission on the English Curriculum of the NCTE has set forth for those who must teach the language arts. In The Commission's own words, these principles read as follows: "First is the principle that development of language power is an integral part of the total pattern of the child's growth. No child is borne mature."¹ The Commission Report continues: "The second is the need for developing language power. It is not something in the back of one's head which he can remember if he thinks long enough; it is the ability to think and to act in the right way at the right moment, and is developed only through a long series of experiences in trying to act in the appropriate way in a similar situation."² In the light of these two principles, what content, what methods and devices can one use

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effectively in a junior college Communication course?

First, I believe that the instructor must adapt his material and methods to the needs and abilities of his class. Like the poor, we shall always have individual differences with us. Although there may be more homogeneity in the senior college freshman classes where they have a line of demarcation below which they do not go, we in the junior colleges are getting more of that 49 per cent which the President's Commission on Higher Education estimated could profitably complete 14 years of schooling, and less of the elect 32 per cent who can sweat out all four years. But we are getting *some* of that 32 proof stuff to warm our drooping spirits, though at times it may not seem to be in sufficient quantity to intoxicate us. Quite naturally this wide range of differences complicates things for the teacher. We shall have to make a diagnosis as quickly and accurately as possible and not assume that the patient is ready for strong

¹ *The English Language Arts* (New York: Appleton-Century-Crafts, 1952), p. 12.

² *Ibid.*, p. 13.

meat when pabulum should still be the main ingredient of his diet. It goes without saying that we will use everything our registrar has compiled for us: high rank, ACE, Cooperative English scores, etc. But that is not enough either. We had better give our subjects our own basal metabolism test so that we can better determine just what each student's energy turnover really is. This will call for a personal interview to get this background and interests (or lack of them), the assignment of impromptu themes, and home-prepared themes. Let us not shun the autobiography, but through it try to get the students to analyze their own communication difficulties. Raise with them such questions as these: Have you found speaking, writing, reading, or listening most difficult? Do you have trouble with mechanics? Do you find it difficult to decide what to write or say or to develop your ideas? What kind of activities in this course do *you* think will help you?

Having discovered the bitter truth that there are not many prodigies in the group and not having much opportunity to group our students according to ability, we shall have to try to develop broad units of instruction in which to care for individuals in the same group. As the course develops, we can have the gifted branch out on their own projects—send them farther into the history of language and into a more exacting study of English grammar, have them analyze more thought-pro-

voking articles, assign them more difficult themes and speeches, and let them wrestle with the more complex processes of communication. Let us not, however, make the first assignment for the entire class an analysis of a chapter out of Korzybski's *Science and Sanity* or suggest as theme number one "Milton's Use of Epic Similes in the First Two Books of *Paradise Lost*." Much more profitably, let us see if we can arouse every student's interest and curiosity in language communication, a tool he has used daily for 18 years and will probably use for three score more.

For the most part, our students have picked up a bias toward the study of English. There is not time here to discuss the why and wherefores for this animus, but it is there to a greater or lesser degree. It appears to me that our big job is to generate an enduring interest in the art of effective communication. Shouldn't there be some intrinsic interest in the study of this tool so readily at hand and so constantly used? Paul Roberts in his *Understanding Grammar* states that "the best reason for studying grammar is that grammar is interesting."⁸ I am sure that all of us readily agree, but are English teachers so odd that interest in the structure of English marks them off from the rest of society? To come to grips with this vexing lack of interest on the part of so many students, I think

⁸ Paul Roberts, *Understanding Grammar* (New York: Harper and Brothers, 1945), p. 1.

that we shall have to keep in mind Roberts' definition of grammar, namely, "Grammar is a body of generalizations describing a language,"⁴ and underline the word "describing." If we can get the student to study his own language inductively, I believe that we are on the road to success as far as improving his communication is concerned. I believe further that this involves the application of linguistics to language teaching, or in other words a presentation of our language on the basis of its *actual* phonology, morphology, and syntax.

Phonology. "Spoken language is *the* language"⁵ states the Commission. Language is speech. The first thing is to classify the sounds of the language, and the student ought to learn something about this by doing precisely that to his own language. To aid him he should be introduced to the schematic vowel diagram (vowel parallelogram), illustrating the different vowel sounds. He should learn the 39 or 40 phonemes used in the English dialect he speaks. He will also need a little elementary instruction in phonetic transcription. This will not only drive home to him the fact that language is essentially speech, but it will also point out to him spelling and pronunciation problems, e.g., *s* plural represents *s*, *z*, and *iz*. Perhaps he might learn also that sounds of a language are used in a continuum and that they are not isolated lists from the dictionaries. This

might help him with the problem of pronunciation, at least to the extent that he does not take over into his speech patterns some of those painfully labored pronunciations found occasionally among the over-fastidious.

Morphology. How many basic inflections are there remaining in modern English? Not many. The Thorndike-Barnhart Comprehensive Dictionary says, "of all the inflections that English had originally, only six are left. Of these six, only two are vigorously alive, the other four are dying."⁶ It should not entail too much time and trouble for the average student to note these, and he might even become mildly excited over learning more about the structure of his language when he sees how simple it is.

Syntax. Some students, though they have been speaking English for quite a few years, seem amazed to learn that the basic word order in English is subject, verb, object, while that need not be the case in some other languages. They apparently have never realized the importance of word order in our language for the communication of meaning. Could it be that our emphasis on Latin grammar has caused us to forget this aspect and to look more towards morphology which is comparatively unimportant in English? And in classifying and drawing generalizations, let us not permit the procedure to smell rather damply of the

⁴ *Ibid.*, p. 493.

⁵ *English Language Arts*, p. 276.

⁶ Thorndike - Barnhart, *Comprehensive Desk Dictionary* (New York: Doubleday and Co., 1951), p. 19.

academic cloister by using hypothetical examples and controversial classifications, material which ordinarily would find its way only into "The Current English Forum" of *College English*.

Then comes the matter of usage. Certainly the younger learner needs firm guidance until he becomes somewhat proficient in handling his language. He will nevertheless have to be exposed to the facts of life, and the basic fact of grammatical life is that usage is relative. Rules do not determine usage, but rules are determined by usage. If the student is getting sound instruction in his living language, he will learn that one of the basic truths is that there are cultural levels of usage and functional varieties of usage. He already vaguely knows this and has been adapting his language to these facts. It is our duty to help him adjust more easily and effectively.

So much for the linguistic aspects. But we are teaching *communication*, or, if you will, *composition*. Let's not argue now. Your Latin colleague will tell you that *com-ponere* means "to place together," and I presume that it is ideas that we are to place together in composition. And communication, the same informant will tell you, is from the past participle *communicatus*, meaning "shared." And again, presumably, we are to share our ideas with someone else. But how do we teach that?

I am afraid that too often we are *testing* communication rather than teaching communication. To borrow a phrase from Dr. J. N. Hook, "the teacher is more than a puller of weeds." Too often we forget that we are also sowers of the seed. It seems to me that what we do with the composition before the students write is more important than what we do after they write. I would like to call your attention to an excellent article in *College English* for October, 1954, "Assigning and Commenting on Themes" by Delmar Rodabaugh of the University of Minnesota, in which he discusses the problem of preparing the student for writing. It is true, as Mr. Rodabaugh says, that he is not suggesting anything new, but the topic is so often neglected even by the best intentioned teachers that no one will take it amiss if he is gently reminded of its importance. In 1927, in his *Breadloaf Talks on Teaching Composition*, Alfred Hitchcock insisted that "the teacher must pay attention to the processes preceding expression."¹ The student will have to have something to say before he can say it, and he will have to write from actual experience to have something to say. So the teacher's duty is to help the student observe experience. This can be done by reading and discussing together model essays, always raising questions as to the author's central idea, the reasons for his success in im-

¹ Alfred Hitchcock, *Breadloaf Talks on Teaching Composition* (New York: Henry Holt and Co., 1927), p. 8.

parting that idea, etc. But it is fully as important to ask the individual in the open forum of the class, what are you going to write about? Why? How will you develop your idea? What facts and examples will you use to put it across?

The instructors through classroom discussion can also help the students arrange their observations and experiences. The students must learn to center their thinking on what they know and arrange it in some orderly manner so that the receiver on the other end of the communication line can share in the experience. Here we can again employ the term *composition* to good effect, using the artist's idea of *composition*—arrangement and organization to produce a satisfying whole. This organization will vary, of course, with the type of material. If it is narrative, chronological arrangement will be the natural one. If it is exposition or argument, a logical arrangement is the one called for, a grouping of related ideas and presenting them in orderly progression.

The problem which the beginning communication student has is essentially no different from Sir Philip Sidney's when he wanted to let Stella share his experiences, "that she, dear she, might take some pleasure of my pain." But words come halting forth and invention, nature's child, has fled stepdame Study's blows, and in this crisis he will be ready to cry out with

Astrophel, "Thus great with child to speak, and helpless in my throes, biting my truant pen, beating myself for spite!" He will find a solution to his problem if he can hear these words from you, *his Muse*, "Fool, said my Muse to me, look in thy heart and write."

"To sum up, the burden of my song is that whatever instruction is given the student, it should not be given in a vacuum but with the recognition that the student had had some growth and development before he came under your benign influence and that there will have to be more growth and development after he leaves you, even though yours is the last formal instruction in English that he will receive. B. Lamar Johnson states that "conservative estimates indicate that by the time he enters junior college, every student has had roughly 2,000 hours of classroom instruction in what is variously called English."⁸ You will probably add 130 hours more. That is real "stock-piling." But "stock-piling" is not enough. What you give him will have to be some fissionable material, some plutonium that will serve as a starter so that there will be a continuous chain-reaction in his language habits, with the result that his ability to communicate will continue to grow as he grows and has need for more complex tools of communication.

⁸ B. Lamar Johnson, *General Education in Action* (Washington, D.C.: American Council on Education, 1952), p. 172.

Albert Einstein

ROBERT GATES DAWES

He died our foremost scientist—
World renowned! His name
Synonymous with relativity.
But mark, he was a teacher too.
His last days here, one saw him stoop
To raise a fledgling fallen from its nest,
And carefully repatriate the bird
To safety whence it came.
Again, and yet again he found
Tis poor adopted pupil dispossessed,
Or pushed from out its warm security.
Thrice giving aid, he sought to over-
come
Parental sloth or disregard
Of offspring's welfare.
Yet once again he saw his outcast
Cast away—alone—a prey

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For predatory enemies.
It's said he sighed, and gravely
Shook his massive mane, tousled,
Grown snow-white in mankind's serv-
ices;
And then walked on, still pondering
The mysteries of sciences and life;
But knowing teachers only go so far
Before perforce, they most concede
That further effort, or advance,
Or blest success,
Must be resolved by nature or its God.

Educational Apprenticeship for More Engineers

D. W. ADAMSON

THE GENERAL trend in education is upward. It is but a question of time until the junior college work will supplant the freshman and sophomore years of the traditionally operated four year tax supported colleges and universities.

The junior college is the educational giant of the mid-twentieth century. Its doors are open to the poor and the rich, as well as to those who find themselves, for whatever reason, classified as educationally underprivileged. It offers opportunity for all the people to share in the perpetuation of the American way of life.

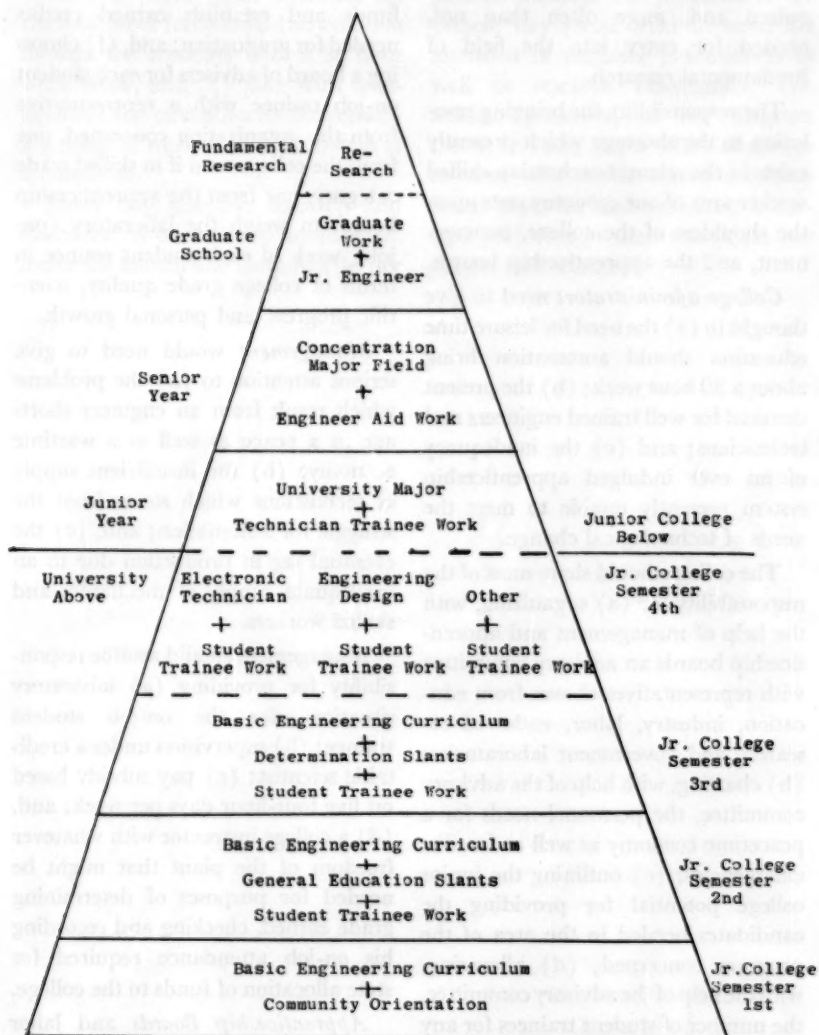
The philosophy of the junior college represents a synthesis of the thinking of all the people which it serves. Its program has no place for traditional prejudice. It can slant old or build new curriculums to meet the demands of a changing social order, war emergencies, or industrial automation.

The immediate functions of the junior college are to offer preprofessional education for those who might wish to prepare themselves for admission to an AB college at the junior year level; and semiprofessional or skilled trade training for certain others who seek entrance to some specialized segment of business or industry. Both the

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preprofessional and the semiprofessional areas are rich in opportunity for college administrators and managers of business who would work together to make real the proving ground concept of research tentatively outlined in the diagram included as a part of this article.

The managers of industry might very well seize the initiative in this high adventure. In so doing they would hold up the hands of college administrators and help to lend dignity to a practical system of educational apprenticeship much needed by young people in a world burdened with technological travail. This plan, once understood and sympathetically administered by education, management, and apprenticeship boards, would keep thousands in college; provide technicians where presently none exist; supplement the apprenticeship system, where there is need, with on-job student trainees; serve as a screening system to discover engineer-scientist talent which could be subsidized and pushed upward



through all the required echelons of the formal education generally required and, more often than not, needed for entry into the field of fundamental research.

The responsibility for bringing resolution to the shortage which presently exists in the scientist-technician-skilled worker area of our economy rests upon the shoulders of the college, management, and the apprenticeship boards.

College administrators need to give thought to (a) the need for leisure time education should automation bring about a 30 hour week; (b) the present demand for well trained engineers and technicians; and (c) the inadequacy of an over indulged apprenticeship system presently unable to meet the needs of technological change.

The college should share most of the responsibility for (a) organizing, with the help of management and apprenticeship boards an advisory committee with representatives chosen from education, industry, labor, endowed research, and government laboratories; (b) charting, with help of the advisory committee, the personnel needs for a peacetime economy as well as for war emergencies; (c) outlining the junior college potential for providing the candidates needed in the area of the program concerned; (d) allocating, with the help of the advisory committee, the number of student trainees for any proposed segment of the program concerned; (3) establishing, with the industry concerned, the lines of liaison

needed by the college to check attendance required to receive state tax funds and establish earned credits needed for graduation; and, (f) choosing a board of advisers for each student on-job trainee with a representative from the organization concerned, one from the college, and if in skilled trade category, one from the apprenticeship board, to weigh the laboratory (on-job) work of each student trainee in terms of college grade quality, scientific progress, and personal growth.

Management would need to give serious attention to (a) the problems which result from an engineer shortage in a peace as well as a wartime economy; (b) the insufficient supply of technicians which stems from the struggle for automation; and, (c) the eventual lag in production due to an inadequate supply of mechanics and skilled workers.

Management should assume responsibility for providing (a) laboratory situations for the on-job student trainee; (b) supervision under a creditable scientist; (c) pay subsidy based on five four-hour days per week; and, (d) a college instructor with whatever freedom of the plant that might be needed for purposes of determining grade earned, checking and recording his on-job attendance required for state allocation of funds to the college.

Apprenticeship Boards and labor should (a) reevaluate the traditional apprenticeship system in the light of the demands of automation; (b) give

thought to the distribution of the total number of work hours available for the total labor force should automation indulge the economy with a 30 hour work week; and (c) plan with management and education for the retraining needs of workers under a system of automation.

Every day scientific research and discovery, in one way or another, remolds the known and unknown deeper

social forces which underlie our complex civilization. The problems of the present day social order demand the attention of engineer practitioners as well as research isolationists. The schema presented in the diagram shown in these pages offers challenge to those who would abandon educational tradition and renounce industrial prejudice in their search for engineers and scientists.

Religion in the Junior College Curriculum

ROBERT S. MICHAELSEN

Discussions at the recent Conference on Religion in the Junior Colleges held at Southern Methodist University showed that there is no single "best" way in which the junior colleges can meet their obligations in providing an adequate place for religion in the education of the young people in their charge. One speaker strongly advocated an approach which would give religion its rightful place in all or most of the curriculum—religion being dealt with whenever it was appropriate in history, sociology, English, etc. Another speaker described an imaginary course which he called "Philosophy 1" and which would deal with "Western Religious Thought" from Plato and Job to Maritain and Niebuhr. Workshops dealt with such areas as "Courses in Religion," "Religion in Other Disciplines," "Religion and the Co-Curricular Program," etc. The impression that has stuck in the mind of this participant in the conference is that there are many ways of getting the job done and that no single method can do it adequately. However, having been associated with the workshop on "Courses in Religion," and having had several years experience in teaching and supervising courses in religion for

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undergraduates, I feel the need to state my views on how important courses in religion are in fulfilling our obligations as educators and to discuss how they might best fit into the curriculum of the junior college.

I begin on the premise that the chief concern of the junior college whose primary business is liberal arts is to ground the student in the experiences, institutions, practices and ideals of culture—and specifically western culture—so as to enable him to live a more meaningful, intelligent and useful life. If one accepts this as a major premise, then we might move on to the minor premise of our syllogism, namely, that religion is fundamental in culture, and specifically that the Judaeo-Christian tradition is the "warp" of the "fabric" that is western culture. We conclude, then, that no one can understand culture—any culture—without a grasp of religion, and specifically one is unable to deal with

even the bare essentials of western culture without some knowledge of the Judaeo-Christian tradition. Remove the warp from the fabric and only shreds remain.

A second syllogism, already suggested in the first, begins with the assumption that education should prepare the student to live a meaningful and worthwhile life. Such a life is impossible without devotion to high ideals, commitment to high purposes. The student's education is far from complete if he has little or no opportunity to examine critically the faiths by which men have lived and the ideals and values to which they have subscribed. Furthermore, this should be not only a matter of history but a highly contemporary and relevant pursuit. Men live by faith or faiths now; they subscribe to ideals and values now—whether we label this religion or not. The student needs to arrive at an understanding that he is constantly involved in decision making, that he will make his decisions in accordance with what he values most highly, and that he should be prepared to enter a world in which many "gods" will be competing for his affections and his loyalty. Certainly an orientation in those faiths by which his fathers have lived and which are still vitally relevant today will be invaluable to the student. I am not suggesting indoctrination, but I am suggesting the necessity of a realistic view for educators—regardless of whether our post be in public, private,

or denominational institutions. Men live by faith. Many faiths compete for their energies. It seems to me that we as educators are obliged to make this evident to students and to expose them to the major faiths of their own culture—with the understanding that they too must make decisions.

If we agree on these syllogisms, the next question is: How do we deal with religion in the curriculum of the junior college so that our students can achieve this minimum understanding and appreciation of the role of religion in culture and in life? A position strongly recommended by one outstanding speaker at the SMU Conference was that religion should pervade the curriculum, that it should be dealt with whenever it is fundamental in the curriculum. This educator expressed a strong preference for this method as against special courses or a special department in religion.

I agree that religion should be dealt with when appropriate in the various subject areas. The integrated or pervasive approach is highly desirable. But is it adequate? My experience has led me to the conclusion that, generally speaking, it is not. Certain problems beset this approach. One is the training of the teachers. Most graduate study today is highly specialized. It is unfortunate but true that a man trained in American History, for example, is not likely to know much about religion in America unless he should happen to specialize in some religious figure or

some church or denominational group. A second problem is the matter of orientation. A literary approach to the Bible, for example, is fine in its place, but it hardly does justice to the Bible—to the purpose of those who wrote the Bible, to those in the Judaeo-Christian tradition who have turned and continue to turn to the Bible as a source of inspiration and authority, and to the major influence which the Bible has had in our Western world. Again, one can approach the Puritans historically or from a literary standpoint or in terms of their political philosophy, but in each case he would be merely pecking around the edges of Puritanism while failing to get at the heart of that great religious movement which has conditioned so much of our approach to life and its values.

A more positive way of putting this is to point out that religion is a content area in itself, worthy not only of being considered on the fringes of various other areas but also as a central part of the curriculum. Religion is fundamental in human experience and culture—as fundamental as most if not all of the other areas which are studied in courses in the normal liberal arts curriculum. To leave it out of the curriculum, or to deal with it only incidentally in other "subject areas," is to bypass a large area of that experience and culture which is the central concern of our educational system. I would go even further and say that such an approach will almost inevitably be out of

focus. Religion has been and is frequently *the* center of orientation in that experience and culture, the fundamental principle around which culture gravitates. To study culture without giving a central place to religion is like studying biology without examining man.

But how shall we make a place for courses in religion in the already crowded junior college curriculum? What type of course or courses should these be? I should like to suggest something similar to Professor Sutherland's "Philosophy 1." This is a course taught at the State University of Iowa under the title, "Religion in Human Culture." This course concentrates heavily on the role of the Judaeo-Christian tradition in our Western Culture and affords a solid exposure to some of the great classics of that tradition. It also gives some indication of the role religion plays in our contemporary culture, thus indicating to the student that this is not a matter of the so-called dead past but that it is vitally relevant today and that he himself is involved in it.

Our course is part of the general education or "core" course program of the College of Liberal Arts at the State University of Iowa. It is an option which can be chosen to meet one of the requirements in that program. The majority of students who take the course are freshmen and sophomores. The course is an eight-semester hour course given in two semesters. How-

ever, the basic outline could easily be adapted to six or even four semester hours. The outline is as follows:

RELIGION IN HUMAN CULTURE

First semester: Historical-systematic approach; 32 lectures, 32 discussion periods.

1. Introduction: the nature, universality and significance of religion.
2. Various explanations of the phenomena of religion.
3. "Primitive" religion.
4. and 5. Confucianism in China.
- 6.-9. Hinduism in India.

Readings from: A. C. Bouquet, *SACRED BOOKS OF THE WORLD* (Penguin Books, London, 1954) John B. Noss, *MAN'S RELIGIONS* (N.Y.: The Macmillan Co., 1949)

10.-16. Judaism

- A. Background: Religions of the Ancient Near East
- B. History and Sources
- C. Conscience and justice
- D. Piety and prophetism
- E. Messianism
- F. Sacred days and religious practices
- G. Modern practices and the rabbinic tradition

Readings from: The Old Testament Noss, *MAN'S RELIGIONS* Milton Steinberg, *BASIC JUDAISM* (N.Y.: Harcourt, Brace & Co., 1947)

17.-32. Christianity

- A.-C. Life and Teachings of Jesus
- D. Paul and the early Church
- E. Doctrinal definitions (creeds)
- F. Sources of authority
- G. God and the world
- H. Man and sin
- I. God and man's salvation—Incarnation (Person of Christ)
- J. God and man's salvation—Redemption (Work of Christ)
- K. God and man's salvation—Means of Grace
- L. Doctrine of the Trinity
- M. Doctrine of the Church
- N. The Christian Life
- O. Eschatology

(Throughout the discussion of Christianity an effort is made to show both the unity and the diversities within Christianity.)

Readings from: THE NEW TESTAMENT

Henry Bettenson, *DOCUMENTS OF THE CHRISTIAN CHURCH* (New York: Oxford Univ. Press, 1947)

Second semester: Contemporary approach: 32 lectures, 32 discussion sessions.

1. and 2. The relationship between religion and culture—with examples from both non-Western and Western culture.
- 3.-6. Religion and the fine arts: music, painting and sculpture, architecture.
7. and 8. Religion and literature: the novel and the drama.

- 9.-11. Religion and philosophy.
- 12 and 13. Religion and history.
- 14 and 15. Religion and the natural sciences.
- 16.-18. Religion and the social sciences.
19. Religion and politics.
20. Fascism as a religious problem.
21. Communism as a religious problem.
22. and 23. Democracy as a religious problem.
- 24.-26. Religion and intergroup relations.
- 27.-32. Religion and ethics.

Readings from: Ruth Benedict, *PATTERNS OF CULTURE* (Pelican)

H. Richard Niebuhr, *CHRIST AND CULTURE* (Harpers)

Fernando, Puma, *7 ARTS* (Permabook)

J. Joyce, *PORTRAIT OF THE ARTIST AS A YOUNG MAN* (Signet)

Graham Greene, *THE POWER AND THE GLORY* (Bantam Giant)

Arthur Miller, *DEATH OF A SALESMAN* (Bantam)

H. A. Hodges, *CHRISTIANITY AND THE MODERN WORLD VIEW* (SCM Press, London)

Herbert Butterfield, *CHRISTIANITY, DIPLOMACY AND WAR* (Abingdon-Cokesbury Press, New York)

A. N. Whitehead, *SCIENCE*

AND THE MODERN WORLD (Pelican Mentor)

R. H. Tawney, *RELIGION AND THE RISE OF CAPITALISM* (Pelican)

Kurt Vonnegut, Jr., *UTOPIA 14* (Bantam Giant)

Arthur Koestler, *DARKNESS AT NOON* (Penguin)

R. D. Heffner, *A DOCUMENTARY HISTORY OF THE U. S.* (Mentor)

Ralph Ellison, *INVISIBLE MAN* (Signet)

E. Gilson (ed.), *THE CHURCH SPEAKS TO THE MODERN WORLD* (Image)

G. K. A. Bell, *THE KINGSHIP OF CHRIST* (Penguin Special)

I do not wish to suggest that this type of course is ideal for each junior college situation. At the State University of Iowa it is offered with the assistance of a staff of five people, including one Jewish scholar, one Roman Catholic scholar, and three Protestant scholars. Most junior colleges will not have such a staff available. However, the basic outline has merit—in my judgment—and it is susceptible to numerous variations to accord with qualifications of staff, relevance in the curriculum, etc. Furthermore, the orientation of the course could be more historical, more philosophical, exclusively toward Western culture, etc.

It is also not my intention to advocate that this is the only type of course

in religion that should be offered in the junior college. Certainly there may and probably should be room for courses in Bible, the History of Religions or Living Religions of Mankind, Philosophy of Religion, etc. What I have outlined does have the advantage of combining the integrated and the separate approaches to religion in the curriculum. Thus it can be fitted easily into a core curriculum. This avoids the danger that religion be placed in a category by itself in isolation from other areas of study. It is obvious to anyone taking this course that religion is vitally and integrally related to our culture and our experience, and to many of the academic disciplines which we have devised to study that culture and experience. At the same time, the orientation is primarily toward religion, not history or literature or sociology or philosophy. The Bible is read as the product of the religious communities of Judaism and Christianity and as the most profound religious book of our culture. The creeds and confessions, instead of being approached as museum pieces, are read and discussed as religious statements which have sprung from vital human experiences. Certain products of recent and contemporary literature are examined from the standpoint of how they handle man's perennial religious quest—whether the religious

label is obviously evident or merely implied.

I believe that this type of course offers special advantages to the public institutions and to those colleges which are placing a heavy emphasis on general education or the core curriculum. I do not see how that scare word "sectarian" can be applied to such a course. If it is sectarian because it emphasizes the Judaeo-Christian heritage, so then is the teaching of the history of Western civilization because it concentrates on our own civilization rather than some other.

In most institutions a major obstacle in presenting such a course will be that of finding adequately trained teachers. I hardly need add that the success of this course—as most courses—will depend largely on the teacher. It is encouraging to note that an increasing number of graduate institutions are offering a type of training which will prepare men and women to offer this type of course.

I conclude by reiterating that no one approach to religion in the junior college is entirely satisfactory. However, if we are to do justice to our obligation as educators to expose the students to the central elements of culture—and in particular their own culture—we need to give careful consideration to the place of religion in our curricular offerings.

Junior Colleges and Nursing Education

MILDRED E. SCHWIER

JUNIOR COLLEGES have entered vigorously into the training of nurses. According to the 1952 edition of *American Junior Colleges*, of the 568 junior colleges in the United States, 313 report that they offer either "preparatory and professional curriculums" in nursing or "terminal or semi-professional curriculums" in nursing or both. This participation in nursing education is of several types. In some instances, the junior college cooperates with a hospital school of nursing by providing courses in the biologic, physical, or social sciences or in the humanities for students who are matriculated in the hospital school. Other junior colleges announce that they offer pre-nursing preparation, by which it is assumed that they provide the academic foundations for upper-division work in nursing and counseling facilities through which students who wish to enter a career in nursing will be guided into appropriate institutions in which to prepare for such a career. In a more limited number of cases, the junior college itself offers and administers a program in nursing and makes arrangements with hospitals and other health agencies for facilities in which it can provide clinical instruction.

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The American Association of Junior Colleges and the National League for Nursing, working through a joint committee, are endeavoring to promote the sound development of all nursing programs in which junior colleges participate.¹ From the study this committee has undertaken to date, it would appear that there are two possible obstacles that must be overcome. The first of these is the lack of information, on the part of many nurse educators, about junior colleges and the ways in which they can most effectively contribute to nursing education. As Dr. Bogue has stated, "Thousands of people have not the faintest idea what

¹ A statement on "Guiding Principles for Junior Colleges Participating in Nursing Education," developed by this joint committee, is available from the National League for Nursing, 2 Park Ave., New York 16, N. Y., at a price of 20 cents a copy.

junior college is, and other thousands are completely misinformed about junior-college methods and aims."² To educate nurse educators about junior college education is therefore one of the primary tasks confronting junior college authorities.

Of equal seriousness are the misunderstandings which may arise among junior college personnel concerning the aims, methods, and problems of nursing education. These misunderstandings for the most part derive from the belief, held by many people, that nursing education is quite different from other forms of higher education and that it is therefore governed by a different set of educational principles and policies. Those who are of this opinion, it must be admitted, can probably offer examples of programs in nursing that would uphold their point of view; the fact that these are bad examples—the vestigial remains of outmoded systems—has never been made clear to them. Moreover, there is a certain amount of truth in such beliefs. Preparation for nursing is different in some respects from other kinds of education offered in many institutions of higher learning, particularly those which concentrate on the liberal arts and sciences. To promote a clearer understanding of nursing education, therefore, an analysis of its similarities to, and differences from,

these other kinds of education would seem to be in order.

SIMILARITIES OF NURSING EDUCATION TO OTHER TYPES OF HIGHER EDUCATION

The Degree with a Major in Nursing. Junior College practices in fields other than nursing affirm the generally accepted policy that, with the exception of an honorary degree, a degree is granted by an institution only to students who have been registered in the institution, have studied in a program offered by the institution, and have been certified by its faculty as meeting its requirements for graduation. This policy holds for a program in nursing as well as for any other program from which students are graduated. When junior colleges which do not themselves offer programs in nursing grant associate degrees to students who are enrolled in hospital schools of nursing, the associate degree cannot help but be devalued in the eyes of the nursing profession. Although it is recognized that such action on the part of junior colleges is prompted by a real desire to be of assistance to nursing, the actual result is a backward step in the movement toward sound junior college participation in nursing education. The first requirement for any institution that grants a degree to a student in nursing, then, is that it offer a program in nursing.

The Nursing Department. Junior college educators will also agree that,

²Jesse Parker Bogue, *The Community College* (New York: McGraw-Hill Book Co. 1950) p. xix.

to offer a program in any field of learning, a college is expected to maintain an educational unit in that field, staffed by an adequate full-time faculty whose members are selected for their ability to develop the curriculum and guide the students in their learning experiences. A college would hardly attempt to offer a program in chemistry with a department staffed only by chemists employed by a near-by industrial plant. By the same token, a junior college which purports to offer a program in nursing is not fulfilling its obligations when it assigns responsibility for the courses in the major subject, nursing, to the personnel of a hospital. Even in instances when the hospital nursing personnel are accorded the title of "faculty" of the college, it should be recognized that this is largely a courtesy title, for they are chiefly responsible to another institution and have been selected in terms of the needs of that institution. This is not to deny that persons associated with hospitals and other service agencies frequently participate in college-controlled educational programs in nursing in a variety of ways, but the responsibility for developing the program in nursing and for providing instruction in the principal nursing courses rests with full-time faculty members of the junior college.

The Nursing Faculty. As in any other department of the college, the head of the nursing department and those who teach the nursing courses

should be experts in the field of study; that is, they should be nurses. Expertness in the practice of nursing, however, should not be regarded as the sole requirement for appointment to the nursing faculty any more than ability to speak Spanish fluently would be the only qualification for a member of the Spanish department. In view of the trail-blazing nature of nursing programs that are being developed in junior colleges, it is particularly important that these institutions secure for their nursing department nurses who are well prepared, by both education and experience, in educational science as well as in nursing, who recognize both the strengths and weaknesses of the traditional patterns of nursing education, and who have the wisdom and vision requisite for experimentation with new designs and methods.

It must be admitted that the nursing profession is not able at the present time to supply well-prepared faculty members in sufficient numbers for all the educational programs that might otherwise be developed. It may happen that a junior college with all the other resources for developing a nursing program will be unable to find nurse educators who meet the requirements established for faculty members in its other departments. In such instances, it would be advisable not to make exceptions for the nursing faculty, even though the establishment of a nursing program might be delayed. Great as the need of a community for an educa-

tional program in nursing may be, no community needs, or benefits from, a poor program developed and implemented by inadequately prepared personnel.

Students in Nursing. When the performance on the American Council of Education Psychological Examination of 25,499 applicants to educational programs in nursing was compared with the scores made by entrants to junior colleges, it was found that the two groups have about the same level of general ability.³ There is reason to believe, therefore, that, in general, nursing students will be able to carry college-level courses. When a junior college provides instruction for students of hospital schools of nursing, it is, of course, important that the admissions standards of the two institutions be similar so that the nursing students can study in classes open to other students. For the same reason, junior colleges which offer their own programs in nursing will not want to make any exceptions in their admissions policies for students entering these programs.

The similarities of nursing students to other students in the junior college do not end with their potentiality for carrying college work. They have the same needs for developing social and cultural interests and for preparing for the responsibilities of citizenship as do junior college students in general. It

follows that, during any period when students in nursing are studying in the junior college on a full-time basis, they should be accorded the same opportunities for personal guidance and counseling as are the other students and should be encouraged to participate on an equal basis in recreational and student government activities.

Financing the Nursing Program. In some types of educational programs in nursing, particularly those controlled by hospitals, the costs of the program are paid for in part by the service the students render the hospital in the course of their learning experiences. Under such arrangements it could happen that the "learning assignment" of a student would consist of service to patients for whose care nursing service personnel are not available, rather than to patients whose care would enhance the student's skill and competence in nursing. It is unnecessary to point out to educators who are accustomed to student-centered curriculums the hazards of any financial arrangement in which service demands might take precedence over the educational needs of students. Those who control the finances of hospital schools are beginning to accept this educational point of view, and in many such schools the value of student service is diminishing as an item on the hospital ledger.

If junior colleges were to expect hospitals to pay for student service that is rendered during the planned learning

³ *The Use of Tests in Schools of Nursing: The NLN Pre-Nursing and Guidance Examination* (New York: National League for Nursing, 1954) p. 29.

experiences of a junior college nursing program, the hazards to good education might be even more pronounced than in schools controlled by hospitals. Uninfluenced by pride in "our school," the hospital authorities would find it difficult to justify any expenditure that did not contribute directly and immediately to the hospital's primary function—the care of patients. Since junior colleges have never considered student labor as a proper source of support for the other programs they conduct, it is taken for granted that they will not look to a hospital for any financial support that might be construed as remuneration for student services.

DIFFERENCES BETWEEN NURSING EDUCATION AND LIBERAL ARTS EDUCATION

Although the educational principles and policies which govern the operation of sound educational programs in nursing are no different from those for other types of college programs, preparation for nursing has some distinct features which those responsible for its administration will want to take into consideration.

The Nursing Laboratory. The most important of these differences, perhaps, is the fact that a large part of the nursing curriculum is implemented in the clinical situation, or nursing laboratory as it is sometimes called. For it is in the laboratory, at the patient's side, that much of nursing is taught; here the students learn nursing through

nursing. Since the kind of nursing to which students are exposed exerts a great influence over their concepts of nursing, the quality of nursing practiced in the laboratory has a considerable effect on the quality of the educational program. Yet the process of learning nursing involves more than exposure. Learning experiences in the nursing laboratory must be as carefully planned, selected, and arranged as are the learning experiences in any course in any college curriculum, and the student must be helped to analyze each one in terms of the nursing principles which it illustrates.

The fact that so much of nursing is learned in the laboratory poses problems for the faculty members in their efforts to arrive at a reasonable work load for students, and for college administrators in the determination of a suitable work load for members of the nursing faculty. The first set of problems can be solved by a "getting together" of all those responsible for giving instruction to nursing students in either the nursing courses or those courses that are provided in the liberal arts department. Similarly, administrators and instructors can work out formulas for equating the time spent in nursing laboratory instruction to that devoted to classroom instruction.

Emphasis should also be placed on the fact that, unlike many other laboratories utilized for college students, the nursing laboratory for a junior college-controlled nursing program is an off-

campus, "live situation" laboratory. In contrast to the model machine shop or the model kitchen or the model farm, the hospitals and other agencies that constitute the nursing laboratory are not designed or operated for educational purposes; the facilities and clinical teaching materials may be utilized for the instruction of students, but they are not ordered with such education in mind. The chief control that the junior college will usually have over its nursing laboratory, therefore, lies in the selection of the laboratory. In view of the importance of the nursing laboratory to the nursing curriculum, the junior college's responsibility to exercise this "control by selection" cannot be overstressed. Nor should this "control" end after the initial selection has been made. Continuing scrutiny is necessary to assure the continuation of a proper environment for student learning—the kind of scrutiny that is possible only when the laboratory is in close proximity to the junior college campus. The conclusion to this line of reasoning is obvious: the junior college which cannot find, within a reasonable distance from its campus, institutions which demonstrate high-quality nursing care should not attempt to offer an educational program in nursing.

The Study Materials. Nursing also differs from other junior college fields of learning in that it utilizes, as materials of study, living human beings. For this reason, the learning experiences in the nursing laboratory require ex-

tremely careful supervision not only for the sake of the students but also to safeguard the patients with whom the students are working. As someone once put it, a burned custard in the home economics laboratory is of no moment; a burned patient in the nursing laboratory is a catastrophe.

This need for careful laboratory supervision means that nursing education is expensive—too expensive, possibly, for some junior colleges. It is only fair to point this out lest, in its desire to help a community meet its health needs, a junior college initiate an inadequately financed nursing program and thereby become a source of danger to the very health program it is trying to assist.

Program Objectives. Another significant difference between preparation for nursing and many other types of education derives from the fact that the graduate of a nursing program, once she has become licensed, is a "labeled product." The letters "R. N." after her name will mean to the consumers of her services that she is competent to practice in a beginning position in any type of hospital—general, children's, psychiatric, tuberculosis, and so on—or as a private duty nurse in a patient's home. These consumers are not necessarily in the same locality as the school from which she was graduated, for her license entitles her to practice anywhere in the state and often, through a process of endorsement, enables her to become licensed

and practice in other states as well. In other words, the community served by a junior college program in nursing may be a very large community—certainly as large as the state in which the college is located and frequently as large as the United States.

In developing program objectives, therefore, junior college faculties will want to take into account the needs throughout the country as well as those that are most apparent in their own localities. They will doubtless feel the need for advice and guidance over and beyond that available in their own immediate environs. It will be necessary, of course, for them to consult with representatives of the state licensing authority for nursing, since approval of this body is prerequisite to the operation of a program which prepares registered nurses. In addition, it is suggested that they communicate with the National League for Nursing to arrange for consultation service from that organization or to get advice as

to where appropriate assistance may be secured.

To summarize, the educational principles and policies which govern the development and conduct of other associate degree programs will apply equally to educational programs in nursing offered by junior colleges. There are, however, certain differences between the facilities and materials of instruction utilized by nursing education and those used by other junior college programs. Those colleges offering nursing programs will want to be aware of these differences. Because of the national implications of state licensure for nursing, junior colleges which are considering the establishment of nursing programs or which are aiming to improve programs already in existence will undoubtedly wish to seek assistance in the development of the objectives of these programs from such groups as the Department of Diploma and Associate Degree Programs of the National League for Nursing.

Report of the Research Office American Association of Junior Colleges

C. C. COLVERT, DIRECTOR
March, 1955

REPORT OF THE OFFICE

THIS IS the sixth report your Director has made and the sixth year he has served in the capacity as Director of Research for the Association. According to plans, this will be the last year a central Research Office will be maintained. I have enjoyed the work with and for you and have appreciated the splendid cooperation all have given to the work.

This year, 1954-55, has brought about the completion of the following studies: the study on salaries for teachers and administrators for 1954-55; the study of "fringe benefits" for faculty members; and the study of the college and university offerings and services in the areas of Junior College Education and what junior college administrators are doing to encourage their faculty members to improve themselves professionally.

Last Spring (1954) you received a study on the "Status of Pre-professional and Technical Engineering Training in the Junior Colleges of the United States." The Research Office also gathered, compiled and published the *Junior College Directory, 1955*.

C. C. COLVERT, who has served as Director of Research from 1949 to 1955, gives in this article a report of his research office. He is a member of The University of Texas faculty, where he serves as Professor and Consultant in Junior College Education and Chairman of the Department of Educational Administration.

REPORT ON THE STUDY OF CHARACTERISTICS OF "GOOD" JUNIOR COLLEGE TEACHERS

During the past three years the Research Office has been doing research concerning characteristics of "good" junior college teachers. Assisting in this research were two (former) graduate students, Dr. Maurice Litton¹ and Dr. P. E. Smith.²

No one in the research field has been at all encouraging in this endeavor. No

¹ Maurice L. Litton, "A Study of Selected Aspects of Preservice Preparation of Two Groups of Junior College Teachers," (Doctor's Dissertation, University of Texas, 1953).

² P. E. Smith, "A Study of Certain Characteristics of 'Good' Teachers in a Junior College as Compared with a 'Control' Group," (Doctor's Dissertation, University of Texas, 1954).

previous research, to date, has been very successful in isolating or determining the characteristics of outstanding or successful teachers. It might be said, however, that each of us knows what they are, or at least thinks so.

This research was based on a rather intensive study of some 250 "good" junior college teachers and 250 "control" junior college teachers selected at random.

Junior college administrators and faculties of each college were asked to select a teacher who was representative of the better teachers of that faculty. Two hundred fifty-five colleges responded, each with a selected "good" teacher. By the use of a random sample method, a random selection from the faculty member of each of the 255 colleges that had nominated a "good" teacher was made by the use of the faculty rosters in the college catalogs. This group was the "control" group of teachers. Data were gathered from these teachers through the use of questionnaires and their college transcripts of college work.

Consideration was also given in this study to differences between the male and female teachers and the public and private junior college teachers as related to the characteristics studied.

The study consisted of two parts. The first was a study of 33 aspects of the preparation of the two groups of junior college teachers and the second was a study of 17 community activities and nine professional activities of jun-

ior college teachers, a total of 26. A Chi-square technique was developed for analyzing the data.

There was no validation check to see if the "good" teachers were really better than the "control" or random sample group. It was assumed that the administrative officers and faculties of the junior colleges had selected a group of "good" teachers which were superior to the group which was selected at random.

PRESERVICE PREPARATION

Of the 33 selected aspects of the preservice preparation, the data show that significantly greater numbers of teachers from the "good" group than from the "control" group:

1. reported attendance at public elementary schools;
2. had a broad undergraduate college training, as defined;
3. had received college credit for a course in History of Education.

However, significantly greater numbers of teachers from the "control" group than from the "good" group:

1. reported attendance at kindergartens;
2. reported a bachelor's degree as the highest earned degree;
3. had received college credit for a course in Educational Administration;
4. reported more than three years of experience in vocational fields not closely related to their respective teaching fields.

There were no significant differences between the numbers of teachers from the "good" group and from the "control" group with regard to the remaining 26 aspects of preservice preparation as follows:

1. attendance at junior high schools;
2. graduation from public or private high schools;
3. attendance at junior colleges;
4. sources of highest earned degrees;
5. total number of semester hours of college credit;
6. number of semester hours of college credit in education courses;
7. per cent the semester hours in education were of the total number of semester hours;
8. number of semester hours of college credit in the major teaching department;
9. per cent the major teaching department preparation was of the total college training;
10. college credit received for a course in Philosophy of Education;
11. college credit received for a course in Psychology of Adolescence;
12. college credit received for a course in Tests and Measurements;
13. college credit received for a course in Guidance and Counseling;
14. college credit received for a course in Curriculum Development;
15. college credit received for a course in Methods of Instruction;
16. college credit received for a course in The Junior College;
17. extent of participation in extra-curricular activities in high school;
18. extent of participation in extra-curricular activities in undergraduate college;
19. extent of participation in extra-curricular activities in graduate school;
20. previous elementary school teaching experience;
21. previous junior high school teaching experience;
22. previous high school teaching experience;
23. previous junior college teaching experience;
24. previous college or university teaching experience;
25. previous school administrative experience;
26. experience in vocational fields closely related to their respective teaching fields.

It is most disappointing that 26 of the 33 aspects of preservice preparation showed no significant differences between the "good" and "control" groups of teachers, only three show significantly greater differences in favor of the "good" group of teachers and four in favor of the "control" group. These data are also shown in Table I. A greater number of significant differences were found in these aspects of preservice preparation of junior college teachers when the teachers are classified according to sex (male and female) and type of college (public and private) in which the

teachers taught. These data are also listed in Table I.

Significantly greater numbers of male teachers than female teachers:

1. reported attendance at kindergartens;
2. reported attendance at junior high schools;
3. reported attendance at junior colleges;
4. reported the doctor's degree as the highest earned degree;
5. had received more than 204 semester hours of college credit;

6. had less than 10 per cent of their total college semester hours in education;
7. had received college credit for a course in Philosophy of Education;
8. had received college credit for a course in Educational Administration;
9. reported more than three years of experience in vocational fields not closely related to their respective teaching fields.

TABLE I

Thirty-three selected aspects of preservice preparation of junior college teachers and the designation as to which are significant in favor of the "good" and "control" groups, the males and females, and the public and private junior college teachers and those which showed no difference

Items	Good	Control	No Difference	Male	Female	No Difference	Public	Private	No Difference
Attendance at Certain Type Schools									
Attendance at Kindergarten .....	..	X	..	X	..	..	..	..	X
Attendance at a Public or Private Elementary School	X	..	..	..	..	X	..	..	X
Attendance at a Junior High School .....	..	..	X	X	..	..	..	..	X
Graduation from a Public or Private High School .....	..	..	X	..	..	X	..	..	..
Attendance at a Junior College .....	..	..	X	X	..	..	..	..	..
Highest Degree and Type of College Attended .....	..	..	X	X	..	..	..	..	X
Aspects Related to College Training									
Total Number of Semester Hours Earned .....	..	..	X	X	..	..	..	..	X
Breadth of Training at the Undergraduate Level	X	..	..	..	..	X	..	..	X
Amount of Professional Training .....	..	..	X	..	..	X	..	..	X
Percentage of Total Semester Hours Earned Which were in Professional Courses in Education .....	..	..	X	..	..	..	..	..	..
Amount of Training in Major Teaching Department .....	..	..	X	..	..	X	..	..	X
Percentage of Subject-Matter Preparation .....	..	..	X	..	..	X	..	..	X
Highest Degree Earned	X	..	..	..	..	..	..	..	..

TABLE I (Continued)

Aspects Related to College Credit in									
Certain Professional Education Courses									
Credit in History of Education	x	..	..	..	x	..	..	..	..
Credit in Philosophy of Education .....	..	..	x	x	..	..	..	..	x
Credit in Educational Administration .....	..	x	..	x	..	..	..	..	..
Credit in Psychology of Adolescence .....	..	..	x	..	..	x	x	..	..
Credit in Tests and Measurements .....	..	..	x	..	..	x	x	..	..
Credit in Guidance and Counseling .....	..	..	x	..	..	x	x	..	..
Credit in Curriculum Development .....	..	..	x	..	..	x	..	..	x
Credit in Methods of Instruction .....	..	..	x	..	x	..	..	..	x
Credit in Courses on the Junior College ..	..	..	x	..	..	x	x	..	..
Participation in Extracurricular Activities									
in High School, Undergraduate College,									
and Graduate School									
Extent of Participation in Extra-	..	..	x	..	..	x	..	..	x
curricular Activities in High School .....	..	..	x	..	..	x	..	..	x
Extent of Participation in Extra-	..	..	x	x	..	..	..	..	x
curricular Activities in Under-	..	..	x	x	..	..	..	..	x
graduate College .....	..	..	x	x	..	..	..	..	x
Extent of Participation in Extra-	..	..	x	..	..	x	..	..	x
curricular Activities in	..	..	x	..	..	x	..	..	x
Graduate School .....	..	..	x	..	..	x	..	..	x
Previous Experience of Junior College									
Teachers									
Previous Elementary School Teaching									
Experience .....	..	..	x	..	x	..	..	..	x
Previous Junior High School Teaching	..	..	x	..	..	x	x	..	..
Experience .....	..	..	x	..	x	..	x	..	..
Previous High School Teaching	..	..	x	..	x	..	x	..	..
Experience .....	..	..	x	..	x	..	x	..	..
Previous Junior College Teaching	..	..	x	..	..	x	..	..	x
Experience .....	..	..	x	..	..	x	..	..	x
Previous College or University Teaching	..	..	x	..	..	x	..	..	x
Experience .....	..	..	x	..	..	x	..	..	x
Previous School Administrative	..	..	x	..	..	x	..	..	x
Experience .....	..	..	x	..	..	x	..	..	x
Experience in Fields Closely Related	..	..	x	..	..	x	..	x	..
to Teaching Fields .....	..	..	x	..	..	x	..	x	..
Experience in Fields Not Closely	..	..	x	..	..	x	..	..	x
Related to Teaching Fields .....	..	x	..	x	..	..	..	..	x

Significantly greater numbers of female teachers than male teachers:

1. had received less than 157 semester hours of college credit;
2. had received college credit for a course in History of Education;
3. had received college credit for a course in Methods of Instruction;

4. reported little or no active participation in extracurricular activities in undergraduate college;
5. reported previous elementary school teaching experience;
6. reported previous high school teaching experience.

There were no significant differ-

ences between the numbers of male and female teachers with respect to the following aspects of preservice preparation:

1. attendance at public or private elementary schools;
2. graduation from public or private high schools;
3. courses of highest earned degrees;
4. breadth of training at the undergraduate college level;
5. number of semester hours of college credit received in education courses;
6. number of semester hours of college credit received in the major teaching department;
7. per cent the major teaching department was of the total college training;
8. college credit received for a course in Tests and Measurements;
9. college credit received for a course in Psychology of Education;
10. college credit received for a course in Guidance and Counseling;
11. college credit received for a course in Curriculum Development;
12. college credit received for a course in The Junior College;
13. extent of participation in extra-curricular activities in high school;
14. extent of participation in extra-curricular activities in graduate school;
15. previous junior high school teaching experience;
16. previous junior college teaching experience;

17. previous college or university teaching experience;
18. previous school administrative experience;
19. experience in vocational fields closely related to their respective teaching fields.

Likewise a greater number of significant differences were also found in these aspects of preservice preparation of junior college teachers when they were classified as to teaching in a public or private junior college (See Table I).

Significantly greater numbers of teachers from public junior colleges than from private junior colleges:

1. reported graduation from public high schools;
2. college credit received for a course in Psychology of Adolescence;
3. college credit received for a course in Educational Administration;
4. college credit received for a course in Tests and Measurements;
5. college credit received for a course in Guidance and Counseling;
6. college credit received for a course in The Junior College;
7. reported previous junior high school teaching experience;
8. reported previous high school teaching experience.

Significantly greater numbers of teachers from private junior colleges than public junior colleges:

1. reported that highest degrees were earned in the following types of colleges: liberal arts and gen-

- eral; professional, technical, and teacher preparatory; professional and technical; liberal arts and general with one or two professional schools;
- 2. had less than 10 per cent of their total college semester hours in education;
- 3. reported more than three years of experience in vocational fields closely related to their respective teaching fields.

There were no significant differences between the numbers of teachers from public and private junior colleges with respect to the following aspects of preservice preparation:

- 1. attendance at kindergartens;
- 2. attendance at public or private elementary schools;
- 3. attendance at junior high schools;
- 4. attendance at junior colleges;
- 5. highest earned degree;
- 6. total number of semester hours of college credit;
- 7. breadth of training at the undergraduate college level;
- 8. number of semester hours of college credit in education courses;
- 9. number of semester hours of college credit in the major teaching department;
- 10. per cent the major teaching department preparation was of the total college training;
- 11. college credit received for a course in History of Education;
- 12. college credit received for a course in Philosophy of Education;

- 13. college credit received for a course in Curriculum Development;
- 14. college credit received for a course in Methods of Instruction;
- 15. extent of participation in extra-curricular activities in high school;
- 16. extent of participation in extra-curricular activities in undergraduate college;
- 17. extent of participation in extra-curricular activities in graduate school;
- 18. previous elementary school teaching experience;
- 19. previous junior college teaching experience;
- 20. previous college or university teaching experience;
- 21. previous school administrative experience;
- 22. experience in vocational fields not closely related to their respective teaching fields.

COMMUNITY AND PROFESSIONAL ACTIVITIES

The study of the 17 community activities and the nine professional activities of junior college teachers and their relationships to the "good" and "control," the male and female and the public and private junior colleges showed the following results: (See Table II) *"Good" and "Control" Groups*.

A significant difference in numbers of teachers from the "good" group and the "control" group was found in only

TABLE II

Seventeen community activities and nine professional activities of junior college teachers and the designation as to which are significant in favor of the "good" and "control" groups, the males and females, and the public and private junior college teachers and those which showed no difference

Items	Good	Con- trol	No Differ- ence	Male	Fe- male	No Differ- ence	Public	Pri- vate	No Differ- ence
Church and Sunday School Activities									
Church Attendance	X	..	..	X	..	X	..
Service on a Church Committee	X	..	..	X	..	X	..
Sunday School Teaching	X	..	..	X	..	X	..
Lodge, Service Club, and Other Type Club Activities									
Lodge Membership	X	X	..	..	X	..	..
Attendance at Lodge Meetings	X	X	..	..	..	X	..
Holding of Elective Lodge Offices	X	..	..	X	..	..	X
Service on Lodge Committees	X	..	..	X	X	..	..
Service Club Membership	X	..	X	..	..	X	..
Attendance at Service Club Meetings	X	..	..	X	..	..	X
Holding of Elective Service Club Offices	X	..	X	..	..	..	X
Service on Service Club Committees	X	..	..	X	..	..	X
Membership in Other Type Clubs (Social, Literary, etc.)	X	..	X	..	..	..	X
Attendance at Meetings of Other Type Clubs	X	..	X	..	X	..	..
Holding of Elective Offices in Other Type Clubs	X	..	X	..	X	..	..
Service on Committees in Other Type Clubs	X	..	X	..	..	..	X
Other Community Activities									
Work with Volunteer Young Peoples' Groups	X	..	..	X	..	..	..
Participation in Primary or Local Elections	X	..	..	..	..	X	..	..	..
Professional Activities									
Membership in Professional Organizations	X	..	..	X	..	..	..
Membership in State Teachers' Organizations	X	..	..	X	..	..	..
Attendance at Professional Meetings	X	..	..	X	..	..	..
Presentation of Papers at Professional Meetings	X	..	X	..	..	..	..
Service on a Panel at Professional Meetings	X	..	..	X	..	..	..
Holding of Elective Offices in Professional Groups	X	..	..	X	..	..	..
Holding of Appointive Offices in Professional Groups	X	..	..	..	X	..	..	..
Participation in Workshops	X	..	..	X	..	..	..
Publications in Last Five Years	X	..	..	X	..	..	..

one aspect of community activity investigated. A slightly significantly larger number of teachers from the "control" group than from the "good" group of teachers reported that they did not vote in the last primary or local election.

There were no significant differences found between the numbers of teachers from the "good" and the numbers of teachers from the "control" group with respect to the following aspects of community life participation:

1. attendance at church;
2. service on a church committee;
3. teaching a Sunday school class;
4. membership in a lodge;
5. attendance at lodge meetings;
6. holding of an elective lodge office;
7. service on a lodge committee;
8. service club membership;
9. attendance at service club meetings;
10. holding an elective service club office;
11. appointment to serve on a service club committee;
12. membership in other type clubs (literary, social, etc.);
13. attendance at meetings of other type clubs;
14. holding an elective office in other type clubs;
15. appointment to serve on a committee in other type clubs;
16. teaching or helping in some other direct way a volunteer young people's group, such as Scouts, YWCA, etc.

A significant difference in numbers of teachers from the "good" group and the "control" group was found in only one aspect of professional activity investigated. A very significantly higher number of teachers in the "good" group than in the "control" group reported holding an appointive office in a professional group.

No significant differences were found between the numbers of teachers from the "good" group of junior college teachers and the "control" group of junior college teachers with respect to the following aspects of professional activity:

1. membership in a professional organization;
2. membership in a state teacher's organization;
3. attendance at meetings of professional organizations;
4. presentation of a paper to a professional meeting;
5. serving on a panel at a professional meeting;
6. holding of an elective office in a professional group;
7. participation in workshops during the last five years;
8. number of publications in the last five years.

MALE AND FEMALE TEACHERS

Significant differences in numbers of male and female junior college teachers were found in several of the aspects of community activity investigated.

A significantly greater number of female than male teachers:

1. reported membership in two or more service clubs;
2. reported membership in two or more other type clubs;
3. reported regular attendance at meetings of other type clubs (literary, social, etc.);
4. reported holding an elective service club office;
5. reported holding an elective office in other type clubs;
6. reported appointment to serve on a committee in other type clubs.

A significantly greater number of male teachers than female teachers:

1. reported membership in one or more lodges;
2. reported regular attendance at lodge meetings;
3. reported no membership in service clubs.

No significant differences were found between the numbers of male and female junior college teachers with respect to the following aspects of community activity:

1. church attendance;
2. service on a church committee;
3. teaching a Sunday school class;
4. holding an elective lodge office;
5. appointment to serve on a lodge committee;
6. attendance at meetings of service clubs;
7. appointment to serve on a service club committee;
8. teaching or helping in some other direct way a volunteer young

people's group such as Scouts, YWCA, etc.;

9. voting in the last primary or local election.

A significant difference between the number of male and the number of female junior college teachers was found in only one aspect of professional activity investigated. A significantly greater number of female than male teachers reported presentation of a paper to a professional meeting.

No significant differences were found between the numbers of male and female junior college teachers with respect to the following aspects of professional activity:

1. membership in a professional organization;
2. membership in a state teachers' organization;
3. attendance at meetings of professional organizations;
4. service on a panel at a professional meeting;
5. holding an elective office in a professional group;
6. holding an appointive office in a professional group;
7. participation in workshops during the last five years;
8. number of publications in the past five years.

PUBLIC AND PRIVATE JUNIOR COLLEGE TEACHERS

Significant differences between the numbers of public junior college teachers and the numbers of private junior

college teachers were found in several of the areas of community life participation investigated:

A significantly greater number of teachers from public than from private junior colleges:

1. reported only occasional church attendance;
2. reported membership in one lodge;
3. reported occasional or regular attendance at meetings of at least one lodge;
4. reported appointment to serve on a lodge committee;
5. reported regular attendance at meetings of other type clubs (literary, social, etc.);
6. reported holding an elective office in other type clubs (literary, social, etc.).

Significantly greater numbers of teachers from private than from public junior colleges:

1. reported regular church attendance;
2. reported service on a church committee;
3. reported teaching a Sunday school class;
4. reported membership in two or more service clubs;
5. reported that they did not vote in the last primary or local election.

No significant differences in numbers of teachers from public and from private junior colleges were found in the following areas of community activity:

1. holding of an elective lodge office;
2. attendance at meetings of service clubs;
3. holding of an elective service club office;
4. appointment to serve on a committee in a service club;
5. membership in other type clubs (literary, social, etc.);
6. appointment to serve on a committee in other type clubs (literary, social, etc.);
7. voting in the last local or primary election;
8. teaching or helping in some other direct way with a volunteer young people's group.

Significant differences between the number of public junior college teachers and the numbers of private junior college teachers were found in several of the areas of professional activity investigated:

A significantly greater number of teachers from public than from private junior colleges:

1. reported membership in two or more professional organizations;
2. reported holding membership in a state teachers' organization;
3. reported attending two or more professional meetings in the last two years;
4. reported serving on a panel at a professional meeting in the last two years;
5. reported holding an elective office in a professional group;
6. reported holding an appointive office in a professional group.

A significantly greater number of teachers from private than from public junior colleges:

1. reported that they held membership in no professional organization;
2. reported attendance at only one professional meeting in the past two years;
3. reported that they attended no professional meetings in the past two years;
4. reported no participation in workshops during the last five years.

No significant differences were found between the numbers of teachers from public junior colleges and the numbers of teachers from private junior colleges with respect to the following aspects of professional activity:

1. presentation of a paper to a professional meeting in the last two years;
2. number of publications in the past five years.

CONCLUSIONS

The findings³ of this study that seem to substantiate previously expressed opinions regarding the preservice preparation of junior college teachers are:

1. More of the teachers from the "good" group had a broad undergraduate training program than did the teachers from the "control" group.
2. More of the teachers from the "good" group had received college

credit for a course in History of Education than had the teachers from the "control" group.

3. More of the teachers from the "control" group reported the bachelor's degree as the highest earned degree than did the teachers from the "good" group.

4. More of the teachers from the "control" group had received college credit for a course in Educational Administration than had the teachers from the "good" group.

Apparently contradicting the previously expressed opinions is the finding in this study that more of the teachers from the "control" group reported more than three years of experience in fields not closely related to their respective teaching fields than did the teachers from the "good" group.

No significant differences between teachers from the "good" and "control" groups were found in 18 aspects of preservice preparation in which previously expressed opinions led to an expectation of significant differences.

Significant differences were found between the numbers of male and female teachers in 14 of the 33 aspects of preservice preparation that were studied.

Significant differences were found between the numbers of teachers from public and private junior colleges in 11 of the 33 aspects of preservice preparation that were studied.

It seems that sex and type of college control, although they were not sig-

³ Maurice L. Litton, *op. cit.*, pp. 287-89.

nificantly related to teacher classification in this study, may be important variables to be considered in a study of the preservice preparation of junior college teachers.

The literature related to the community activities of junior college teachers gives abundant expression of opinion as to the desirability of participation by junior college teachers in the life of the community. The findings⁴ of this study show no significant differences in numbers of teachers from the "good" and "control" groups with respect to participation in 16 of the 17 aspects of community activity used in the study. In only one activity, voting in the last primary or local election, was a significant difference in numbers voted. It was found that a significantly larger number of junior college teachers from the "control" group than from the "good" group reported that they did not vote in the last primary or local election.

Participation in activities resulting in professional growth, with the exception of research activity, is generally considered desirable for junior college teachers. No significant differences in numbers of teachers from the "good" and "control" groups were found in relation to eight of the nine different aspects of professional activity investigated in the study. A very significantly

larger number of junior college teachers from the "good" group than from the "control" group reported holding an appointive office in a professional group.

No information was submitted by those who selected the teachers for the "good" group as to the basis for their selections. The findings of this study related to the community and professional activities of the two groups of junior college teachers used in the study seem to suggest that the extent of community and professional activity of the teachers selected for the group of "good" teachers used in the study were not the most important factors considered by those who made the selections.

Significant differences between the numbers of male and female junior college teachers were found in ten of the aspects of community and professional activity that were studied. Significant differences were found also with respect to 21 of the activities related to community life participation and professional activity of the sample of teachers used in the study. It would appear that sex and college control, although not related directly to teacher classification in this study, may be important variables to be considered in relation to the community and professional activities of junior college teachers.

⁴ P. E. Smith, *op. cit.*, pp. 243-45.



from the **EXECUTIVE SECRETARY'S DESK**

JESSE F. BOGUE

One of the most important inquiries to come to the *Desk* in recent weeks dealt with the American Association of Junior College's attitude and position in relation to issues being raised in state conferences and finally at the White House Conference on Education. As a result of this inquiry, the executive secretary responded with observations which are being passed along to the readers of the *Junior College Journal*. Dr. Dawson is director of Rural Service of the National Education Association. The White House Conference on Education will be held in Washington, D. C., November 2-December 1, 1955.

1. *What should our schools accomplish?* They should provide equality of opportunity for every boy and girl to develop their intellectual powers and potential skills. This opportunity should be extended to the youth of the nation until they have attained this objective through the elementary, junior high schools, high schools, junior and community colleges, senior colleges,

and universities. By the same token that free public education is now provided through the 12th year of schooling in all states and through the 14th year in some, it should be provided for all who can profit by it until they have reached their maximum development.

The schools should be dedicated to efficient citizenship. This is a primary reason for their support through taxation. A democracy demands intelligent, unselfish citizens who are educated and dedicated to the welfare of the nation as a whole and not merely educated to become efficient in working for personal profit and position. Therefore, in all education of whatever kind or extent, those areas of learning and training necessary for the creation of the good citizen should be emphasized. This factor provides one reason why the junior and community colleges are dedicated to the further equalization of educational opportunity and to the proposition that all education must be interfused with liberal learnings—the learnings aimed

at the development of people as people—that they may be free men and women by their own powers and abilities.

The public community colleges are dedicated to the task of overcoming the handicaps of distance and lack of finances for higher education. They are located near the homes of the people so that it is unnecessary for youth to leave home during the first two years of post-high school education. Their tuitions are low, or non-existent—as in California, Mississippi and some other states.

Community colleges are also dedicated to the further education of all citizens who can profit by what may be offered. Offerings are made to anyone, any where, at any time, on any needed subject or area of learning of training whenever enough people are available to justify these offerings. In other words, the community colleges are organized to serve the broad needs and wants of citizens for further education and training in the same manner that free public libraries are available to serve the people with books and other kinds of information as long as the people want to learn. This purpose is aimed at the constant advancement of the people as long as they are capable of advancing. The constant changes which are taking place in technical fields require the re-training and upgrading of workers in many fields. The ever-expanding circles of American influences in the world, the con-

flicts of ideas in almost every phase of thought require that the good and efficient citizen today shall become aware of and well trained in advancements being made in many phases of international understanding and shall have the ready ability to cooperate in and defend the basic philosophies of free governments.

2. *In what ways can we organize our school systems more efficiently and economically?* We believe that the small and therefore expensive units must be eliminated and larger units of educational organization effected. If our public schools were placed in the hands of an outstanding business administrator with power to enforce his decisions as he would in a business enterprise, this change in educational organization would be carried out with little delay. Why can't educators and business people who pay the taxes do now what any good business would have to do in order to survive? States could effect this change by providing the schools with additional state assistance based on the optimum size of school districts. Sliding scales of support could be made with increases in aid for those school districts as they might effect larger units in their organization and administration.

More efficient and economical organization could be made by extending the school year to twelve months. Some students could be on vacation during one quarter of the year, or at such periods of vacation as might be de-

terminated. Vacations for teachers and students would be on a rotating basis. This would reduce the size of school plants by probably one-fourth and place them in continuous use during the entire year.

Moreover, greater standardization could be developed in the construction of school plants. Why should architects be employed to design every new school building? Why not plan them as automobiles are planned? If every automobile had to be designed and constructed individually, the cost would be almost prohibitive.

A third way to reduce costs and improve efficiency is through the use of television, both closed-circuit and open station broadcasting. This use would make possible the availability of master teachers for thousands and even millions of children at the same time. Face-to-face contacts and teaching in the classrooms could be done by those who are less competent than master teachers. Far more clerical help could be made available for all teachers and thus bring into the school systems a far better division of labor on the basis of recognition of various levels and kinds of abilities. This is the way business is organized, and there is little reason to deny its application to the educational processes. We are still plowing too much with a stick and hunting with flintlocks in education while the great world of business, industry, agriculture and the health services are moving ahead with more

efficient tools and procedures. Even in agriculture less than 13 per cent of the population is now producing far more than the total population can possibly consume. Agriculture, traditionally one of the most conservative, has implemented better methods for doing an old job. Education must do likewise.

3. *What are our school building needs?* This question can be answered much better by national studies. We know what the building needs are for community colleges, but not the extent of these needs. Community colleges need to have their own campuses and plants in exactly the same way that such facilities are provided for other levels of education. The community college is a distinct unit of education in its own independent right and should not be attached to any other unit of education above or below. Just as elementary, junior high schools and high schools have their own organizations and facilities, so should community colleges. Wherever large districts have been effected for these institutions with their own independent organization within the school system and with their own facilities and faculties, they have been eminently successful. In fact, no community college organized on the district basis has ever ceased to operate effectively. The large districts provide ample resources for these colleges at reasonable tax rates and large enough enrollments for them to offer the kinds of educational programs needed by the various com-

munities. The comprehensive community college, organized by large districts, under the control of local citizens, supported by local taxes and state finances is one answer to the problem of equalizing further opportunities for post-high school education. This fact can be stated categorically and documented completely. Financial support for community colleges should be over and above that required for the strong support of elementary and high school education and not in place of it. The state of Florida makes this provision. Levies for community colleges must be over and above the foundation program required for elementary and high schools.

4. *How can we get enough good teachers and keep them?* Teaching must be placed on a high professional basis and paid for on that basis. It is strange that so many businessmen who argue for the economic law of supply and demand cannot see its application when it comes to education. They know full well that it works in their own business enterprises. They should know that it works equally well in education. If education as a profession is a calling which requires men and women who are dedicated with a sense of social mission, and such is the case, then dedication and a sense of mission deserve even higher financial support than would be the case otherwise. Some businessmen, however, seem to regard dedication and a sense of mission as qualities which do not require

financial recognition. And this attitude is completely contrary to that which they have when it is applicable to their own enterprises. They pay high prices for this quality in business. They seem to believe that it carries its own reward in education!

A great nation such as the United States can well afford to create those conditions favorable to the profession of teaching. As long as this is not done there will not be enough teachers of the right kind; and too many of the right kind once engaged in teaching will leave the field for others in which financial support and professional standing are more attractive. In the final analysis it is a matter of economics. There is no particular dearth of physicians, dentists, attorneys, or other professional people. Why should there be in educators? There will not be whenever comparable conditions, financially and otherwise, are created for the teaching profession. As long as the conditions are out of balance, as they are now, there will be a shortage of teachers. The nation should face this fact and do it now.

5. *How can we finance our schools, build and operate them?* The people have plenty of money to do the job. That we know. In California last year the people spent more for television sets than they did for all education of every kind in the state. The people must be aroused to the necessity—not merely the desirability of education.

The support of education will have

to follow the pattern of the tax structure. The great bulk of taxes today is derived from income and sales taxes, not from property. Money must be secured where it is. It is being secured by the federal government through income and other taxes and by the states after the same pattern. Therefore, support of education will have to come from the pools where it is being collected. The only alternative is to reduce the amounts which the federal and state governments can collect from the people in their political subdivisions so that the people locally may have enough money to finance their own education. If one will look at his federal income tax receipts or those of the state and sales tax receipts, and compare these with local property taxes, he will know at once what the upshot of this statement is. If the federal and state governments are going to continue to make enormous levies of taxes on the people, individually, then these governments will have to give larger support to education. The manner in which education is supported in most states is out of step with present day taxation practices. Unless and until this balance is restored whereby education may share in funds which are now channeled so largely into central collecting agencies, education will continue to suffer from the fact that it must grub for its resources on grounds already drained off by central agencies. This fact would appear to be self-evident to any reasonable person.

Personally, I believe that there are circles of freedom and responsibility in a government such as ours in the United States. The Bill of Rights prescribes certain areas of personal liberty into which no government under ordinary circumstances has any right to intrude. Basing assumptions on these rights, I believe that the individual should care for himself in all respects as far as this can be done better than by depending on the group locally. The local group likewise should care for its interests whenever this can be done better than by dependence on the state. The state in turn should never look to the federal government for assistance unless it is impossible for the state to provide for its own needs.

However, if this philosophy of economics and political science is to be effective, the individual, the local group and the state must not be unduly deprived of resources needed to care for their several needs. If, therefore, the individual, the local group and the state are respectively to meet their own needs, the federal government must cease taking such large amounts of resources by direct taxation.

6. *How can we obtain a continuing interest in education?* There is need for a far-reaching and long-term debate in this nation on education and its place in our economy. It should deal with the kinds and extent of education needed for the present day. It should be dramatized. Someone should produce a great moving picture of the city or town which forgot everything it had

ever learned in school. Just what would happen to that city or town if this condition should come about by some tragic situation? How would the city function in any of its activities—the banks, the business houses, manufacturing concerns, all kinds of communications? In other words it seems to me that our people are really not consciously sold on education as a primary necessity. They so often regard it as a frill; not as bread and meat and water, but rather as the dessert of the meal. Is it not possible to bring home to the people the basic fact that without education of the right kind and quantity our civilization and its economy would not be possible at all? Finances, why yes, money is necessary; labor, of course, you can't get along without workers; materials, for sure, you must have iron and steel, wood and stone. Education, well maybe—but education as necessary as money, labor and materials? That's a question mark in the minds of too many people. So education must be sold to the general public as one of the basic necessities of life in a free society.

The state conferences and the White House Conference on Education should help to focus national interest on this issue, but they will not be enough. National Education Week should help, but that will not be enough. It is strange that in the great public school system through which such large numbers of citizens pass, the necessity for education is not

stressed far more than it is. It is taken for granted all too much by altogether too many. How does it happen that so many of the very people to whom we must look for adequate support of the schools have been in the schools for eight, ten, 12 or more years of their lives and yet during that time they apparently were never indoctrinated or educated on the essential and necessary functions of education in our society and way of life? In terms of public relations, educators have the greatest chance of any group in America to do a good job for education while children and youth are in the schools. But somewhere along the line they have missed their chance. Interest in education must begin in school if it is to continue after school. I believe that it can be proved that there are large numbers of people who have passed through our school systems and who have not the faintest conception of the history, structure and functions of education in the United States. This defect can and must be remedied.

THE JUNIOR AND COMMUNITY COLLEGES

The objectives of the American Association of Junior Colleges are to develop the professional interests and potentials of its members and to promote the growth of the junior colleges.

The junior and community colleges are concerned with two years of education beyond high school for both youth and adults. The programs of

education are university parallel for those who will enter occupations or establish their homes, re-training and re-educating those who need these programs because of changes in technology or shifts in occupations, and for the life-long learning for all the people in the communities through adult education.

At least 50 per cent of the population could profit by two years of education beyond high school if the programs were devised for varieties of abilities and needs. About 25 per cent of the population could continue formal education for four or more years. And what is the present potential enrollment in junior and community colleges? For youth of college age it is estimated that there were 2,469,942 in higher education in 1954-55, or about one-third of the potential (31%) total age group. If one-half of the age group had been in college, there would have been enrollments of 3,704,913. If one-half of this group had been in junior and community colleges, enrollments would have been approximately 1,800,000 students. This is for youth alone. In some community colleges adult enrollments exceed that of the regular day several times over. It is not at all unlikely that enrollments could exceed 3,000,000 people in junior and community colleges for full-time two-year students, specials and adults. Is this a fantastic figure? In California in 1953-54 there were 294,504 people enrolled in junior and community col-

leges, or about one in 36 people in that state. Project this figure into the total population of the United States and you come out with an estimated enrollment of over 4,000,000 in junior and community colleges *now*—if all states had the same opportunities for this kind of education which California has!

By and large in the United States the community colleges are an integral part of the public school systems. Services through these systems for community colleges may be extended by providing 14 years of free, public education instead of 12. We believe that this is one of the best solutions for further education and the one which is almost inevitable. Many trends at the present time point in this direction.

The ratio of professional persons to the junior and community college age group is estimated at about 18 students. In Florida the teaching unit for state support of community colleges is 12 students, in Colorado it is seven; throughout the United States the ratio in practice is nearly 20. We believe that the ratio should be approximately 15 students in full-time enrollment to each professional teacher.

We advocate that teachers should be professionally educated and experienced with at least a master's degree in the field of their teaching specialty; that they should know the history, functions and unique place of the community college in American higher education; that they should be dedi-

cated to community interests and services through the schools and other social institutions. They must be community minded, dedicated to the democratic way of life and enthusiastic about teaching a more common cross-section of the population than would be the case in a senior college with higher selectivity of students.

Assuming that ultimately the community colleges will spread to all states in about the same proportion as they are now in California there would be need for at least 100,000 teachers for full-time students and approximately 25,000 for adults. This is based on California data which indicate that in excess of 100,000 are full-time students and the remainder are special and adults.

The types of physical facilities needed for community colleges are multiple unit, functional buildings for classrooms, libraries, shops and studios, laboratories, and administrative offices with extensive space for the campus and athletic grounds. This is the type which is very prominent in developments at the present time in all states where the community colleges are

really growing. For example, at El Camino in California the people have spent \$1,000,000 a year since 1946 for their community college plant and have paid this amount by current taxes. Bakersfield is building an \$11,000,000 plant on a campus of 150 acres; Ventura is building a \$9,000,000 plant on 135 acres. There are seven community colleges in Los Angeles City. This year the people voted \$18,000,000 for the further expansion of these colleges within the city. This year Florida appropriated \$4,200,000 state funds for capital improvement of four community colleges already established and projected the establishment of 12 more for a complete state-wide system.

The annual cost per student in full-time attendance in community colleges should be approximately \$450 to \$500 per year. The legal established floor for support in California is \$380 per student in average daily attendance. But very few community colleges in California remain on the floor. The average cost is somewhere between the floor and the indicated ceiling.

The Junior College



JESSE P. BOGUE

The National Convention of the American Association of Junior Colleges will be held at the Hotel Statler, New York City, March 7-9, 1956. There will be pre- and post-convention meetings of various kinds. On Monday and Tuesday, March 5 and 6, a workshop in nursing education, designed especially for junior colleges, will be conducted at Columbia University. The Board of Directors and all committees of the Association will meet on Tuesday, March 6, and until noon on the 7th to perform their various duties. On Wednesday afternoon, March 7, plans are being made for the delegates and visitors to visit United Nations for a special program. On Saturday morning, March 10, the Board of Directors for 1956-57 and the committees will meet for organization and discussing of business to be undertaken during the year.

The General Scheme for the convention in outline will be as follows as adopted and approved by the Board of Directors at the summer meeting in Chicago July 28 and 29:

1. First general session, Thursday, March 8, 9:30 until noon.

2. Regional luncheons, Thursday, March 8, 12:30 until 2:30 p.m.

3. Discussion groups, Thursday, March 8, 3:00 until 5:00 p.m.

4. Second general session, Friday, March 9, 9:30 until noon.

5. Discussion groups, Friday, March 9, 2:30 until 4:30 p.m.

6. Third general session at dinner meeting, Friday night, March 9, 7:00.

The Program for the first day will be devoted to great issues on the international scene which have importance and impact for American youth and especially for those of junior college age. United Nations, UNESCO, the international exchange of teachers and students, international relations clubs, the third year abroad for study, consideration of great international tensions and their impacts on junior college students—these will be among the issues for consideration. The afternoon program will be organized around the issues raised in the morning session and “kicked off” to all discussion groups if possible by means of closed-circuit television. Absolute promises cannot be

made regarding the use of the television because this project is in the stages of negotiation at this time (August 8). Further information, however, will be given to this aspect of the convention. The discussions will be centered around the issues raised in the morning, and extensive details about this phase of the program and briefing will be done well in advance of the convention.

The program for the second day will deal with the rapid revolutionary industrial developments known as automation and what the influences of this revolution may have on junior college education. Outlines regarding this development and readings will be made available. The discussions in the afternoon may be built by the committees around this theme, or any part of it, or on any phase of junior college education which the several committees may indicate. In other words, the committees are free on Friday afternoon to provide any kind of discussion issues which they believe are important. Of course, these will be announced far in advance of the convention.

The Friday night meeting will be in the form of an inspirational address by an outstanding person. Actual selection of speakers has not been made at this writing, but will be announced through the *Journal* and *Newsletters* as soon as they may be secured.

Entertainment for the delegates and visitors is being arranged by President Chester Buxton of the New York State

Association of Junior Colleges with the cooperation of the Middle Atlantic States. It should be observed that with the exception of Friday night, March 9, all other nights are free. A list of junior colleges in or near New York City which will welcome visitors while they are in the city will be made available at a little later date.

Phi Delta Kappa members will hold their breakfast on Friday morning, March 9. Henry Littlefield of the Junior College of Connecticut will be chairman.

Room reservation cards will be mailed to all junior colleges early in the fall.

Regarding the Theme it may be stated that some readers may not see its significance and importance as readily as did the members of the Board of Directors during their discussions in Chicago. However, it is believed that, since New York City is the seat of United Nations and of so many other great organizations which are active today to bring about better understanding and cooperation among the free peoples of the world, an unusual opportunity will thereby be afforded to consider some of these issues and efforts. They do have implications for the youth of the nation and especially for junior college students. Understanding among the peoples of the world and cooperation for peace and goodwill are important to every man's pay check and income; to the future of military service by our young men and

many of our young women; to the kinds of educational programs which are offered and to personnel work with students in many phases of their future lives. The American Association of Junior Colleges has never considered in any of its national conventions these important international issues. Practically all former programs have dealt with domestic issues, but these domestic issues are influenced, so it is believed, by many international issues.

Automation as a process in business and industry is a revolution which is actually taking place now. Some great authorities believe that it will be even greater than the industrial revolution which came about by the application of mechanical power to industrial processes and transportation, or greater than the revolution in mass production and the use of interchangeable parts. It is not too soon, so it is believed, for junior colleges to become fully aware of what is taking place. What will happen will have inevitable results in the kinds of education and the extent of the same in junior colleges and other institutions. Many industrial concerns and labor organizations are now considering the implications of this development.

"America's Next Twenty Years" by Peter F. Drucker is a series of articles in *Harper's Magazine* for March, April, May, and June, 1955. Reprints which contain all four articles have been made available at 50 cents and may be obtained from Department G, *Harper's Magazine*, 49 East 33rd

Street, New York 16, N. Y. Dr. Drucker does not mean to imply that it will be 20 years before the processes and many of the impacts of automation will be felt in the United States and the world. He makes it clear that the revolution is on us now and that its speed will be very great in the future. Why is labor in several of its organizations demanding an annual guaranteed wage? What kind and about how many people will be needed for the processes of automation? How should they be educated and trained? What about leisure time for greater and greater numbers of people? How will they make good use of it? Will the American people develop the higher reaches of cultural education and accomplishments as outlets for increased wealth, leisure time and the right use for the same? What kinds of technical education in business and industry will be needed and especially what kinds of general education?

Twenty years is a very short time in these days to cope with great new and revolutionary movements in business and industry and with their influences on the economic and cultural aspects of American life. The American Association of Junior Colleges, therefore, will consider the probable directions that automation will take and the manner in which the junior colleges may best serve the interests of the American people by taking early steps with its students and their programs of education.



Recent Writings... **JUDGING THE NEW BOOKS**

DEWEY C. DUNCAN, *Arithmetic in General Education*, (Dubuque, Iowa: Wm. C. Brown Co., 1955). Pp. iii + 194.

The lack of arithmetical insight and numerical confidence on the part of most students who do not specialize in mathematics is regrettably widespread. These students frequently leave the study of mathematics without having acquired any real understanding of the character of the subject or of its relation to the sciences, the arts, philosophy, and to knowledge in general. Often students whose primary interest is not mathematics are taught little more than a variety of techniques in special branches of mathematics and acquire a narrow, distorted, and incorrect view of it. Too many educators and parents have excused this deficiency by the attitude that some special mental endowment is necessary to master mathematics and that this special hypothetical equipment can only be inherited and cannot be acquired through earnest effort. As a result, far too many intelligent students

avoid mathematics because they feel that it is too technical in nature.

The student who works through *Arithmetic in General Education* with patient and earnest endeavor can, within one semester, convince any interested person that his arithmetical deficiencies are unnecessary.

Before proceeding further in this review, let us consider the features of this book that the author considers important:

1. The development of a comprehensive grasp of the number-system of elementary arithmetic from the orderly arrangement of the natural numbers, known as "counting" to the system of real numbers, as represented by "points" or "positions" on a straight line.
2. The introduction, one by one, of the fundamental direct operations of arithmetic upon the natural numbers, with their corresponding inverse operations which cause successive enlargements of the number system so that these operations may always be performed upon natural numbers, and the devising of rules to perform all direct and inverse operations upon

the numbers of the enlarged systems of rational and real numbers. Quadratic surds are the only kind of irrational numbers to be considered, and the operations upon them are confined to operations upon rational approximations for them in the form of decimal fractions.

3. The inclusion of certain interesting and useful materials, such as Euclid's algorithm and the checks by casting out nines and elevens.

4. The introduction of a limited amount of algebraic information, such as rules of signs, exponents, and the use of letters to denote numbers.

5. Complete lists of answers to all problems, conveniently placed after each lesson. These answers are a very important part of the syllabus, for the serious student will not feel that he has mastered a lesson until he has verified each answer, and understands the additional information included with certain answers.

6. Each lesson includes many "word problems," or "thought problems" to increase the student's ability and confidence to read comprehendingly, and to apply correctly his abstract mathematical procedures to resolve a situation that is described in words.

7. An additional set of problems to accompany each lesson, assembled in Appendix-A. These problems, stated without their answers, may serve as additional assignments, or to provide examination materials.

8. Seventeen supplementary topics of high arithmetical interest in Appendix-B, designed to increase the student's pleasure in the development of his arithmetical skill and insight, and to suggest the additional mathematical power he may acquire by

further mathematical study. The active or prospective mathematics teacher should find these sections especially stimulating.

9. The refutation of the unfortunate attitude held by many persons that a special type of mind is required to master mathematics. The earnest student will here discover that a *sincere desire to learn*, coupled with a *willingness to devote protracted effort to a task*, is both *necessary and sufficient* for success in mathematics.

The following summary of each lesson and sample problems are given to illustrate further the contents of the book.

In Lesson 1 the student becomes acquainted with the basic operations involving natural numbers. He also learns the customary words for certain special numbers, as "thousand," "million," "billion," "trillion," "quadrillion," and a few more names that have been taken over from Latin number words. The following is an example of the type of problem the student is expected to work after completing Lesson 1:

There are 22 letters in the Hebrew alphabet, 2 more in the Greek, and 4 more in the English alphabet. How many letters are there altogether in these three alphabets?

Lesson 2 gives the student more practice in the basic operations using natural numbers. In this lesson multiplication and involution are discussed. The student becomes acquainted with such words as exponent and base.

How many games are scheduled for one season in a major league of base-

ball, if each of the 8 teams play all the other teams of the league 11 games at its own home field?

Lesson 3 introduces the student to subtraction, complete system of integers, and algebraic addition and subtraction. In this lesson the author defines and illustrates inverse operations, absolute value of integers, and gives rules for algebraic addition of two integers.

What number is obtained by adding the *number of inches* in the perimeter of a rectangle to the *number of square feet* in its area, if the rectangle is one yard wide and two yards long?

The operation of multiplication is extended to the enlarged field of positive and negative integers and zero in Lesson 4. Illustrations of exact arithmetical and algebraic divisions are given in the lesson along with many problems such as:

A truck-load of crates of onions weighed 5,227 pounds. After the crates of onions were removed from the truck, the empty truck weighed 2,419 pounds. How many crates of onions were there, if each crate of onions weighed 72 pounds?

In Lesson 5 the student is introduced to inexact division and fractions. The discussion includes equality of fractions and inequality of two fractions. A proof of the fundamental property of fractions is also given.

How many pieces of linoleum, 3 feet wide and 12 feet long, are needed to cover completely 3 floors, if each floor is 17 feet wide and 24 feet long?

Prime factor forms and common multiples of integers are discussed in

full in Lesson 6.

What is the least number of men needed in a group, if they are to be able to march 8 abreast, or 9 abreast, or 12 abreast, or 14 abreast?

Lessons 7, 8, and 9 are devoted to fractions. Lesson 7 covers subtraction, Lesson 8, multiplication and division, and Lesson 9 concludes the discussion of fractions. Examples of problems from these respective chapters are as follows:

Lesson 7

The official length of a meter in the United States is $39\frac{37}{100}$ inches. Exactly how does this compare with a length of $39\frac{3}{8}$ inches?

Lesson 8

Which is the greater, and by how much, the cube of $\frac{3}{4}$ or the square of $\frac{5}{8}$?

Lesson 9

At the autumnal equinox (approximately September 21) the sun's declination is 0° . During the next three months (during autumn) the sun moves southward $23\frac{1}{2}^\circ$; during the next six months (winter and spring), the sun moves northward 47° to its summer solstice (approximately June 21). Compare the sun's position June 21 with that of September 21.

In Lesson 10 a review and graphical representations of rational numbers are presented.

Compute the actual distance between each pair of positions as specified by the position numbers: (a) $+34$, $+63$; (b) -19 , $+7$; (c) -37 , -23 ; (d) $-2\frac{3}{4}$, $+5\frac{1}{6}$; (e) $+6\frac{8}{9}$, $-4\frac{2}{3}$.

Computations made upon fractions are more tedious and liable to error than computations made upon inte-

gers. Therefore, to remedy this situation the decimal fractions are introduced in Lesson 11.

Convert $13/27$ to decimal form, carrying out the division until an interesting fact is revealed in the quotient.

Lesson 12 presents the rational operations with decimal fractions (addition, subtraction, multiplication, and division).

What is the weight of a medicine ball of diameter 5 feet, if it is made of cork, which weighs $14\frac{3}{4}$ pounds a cubic foot? (Use π equals 3.1416)

Computation of square roots is presented in Lesson 13. The student becomes acquainted with the operation of extraction of a root and possible error to be expected.

A field 56 yards long contains an area of 1846 square yards. Compute the size of the diagonals.

In Lesson 14 the student becomes acquainted with checks on arithmetical operations by casting out nines and elevens. A discussion of the real number system is continued, and many problems are presented to aid the student in checking arithmetical operations.

A discussion of percentage is given along with many problems on this topic in Lesson 15.

A contractor loses 19 days through bad weather during 14 weeks of 5 working days each. What % of the time was lost? Give exact answer by use of common fraction; also give the best decimal approximation to the nearest 0.01%.

In the final two lessons mensuration

and significant figures are discussed. The student will find each of these lessons helpful in continuing his work in arithmetic.

Appendix A gives 119 sample examination problems, seven problems for each lesson. In Appendix B arithmetical miscellanea are presented.

If the student is earnest and diligently works through this book, he should acquire the enviable satisfaction of:

1. understanding clearly the occasion and purpose of the introduction of the various types of numbers occurring in arithmetic, and of having mastered the several direct and inverse arithmetical operations that may be performed
2. having gained the necessary insight and skills to apply these materials to obtain the correct solution of any problem whatever that is solvable by the fundamental processes of arithmetic
3. knowing how to apply certain checks upon his calculations to increase his confidence in their complete freedom from numerical errors
4. having had a few glimpses into some of the fascinating numerical and spacial relationships which are to be revealed in future courses of mathematics, if he should desire to pursue such study
5. having effectively dissipated any preconceived misapprehensions regarding his capacity for success in mathematics
6. feeling completely adequate for undertaking the necessary mathematics courses which are required for progress in his chosen vocation or profession.

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